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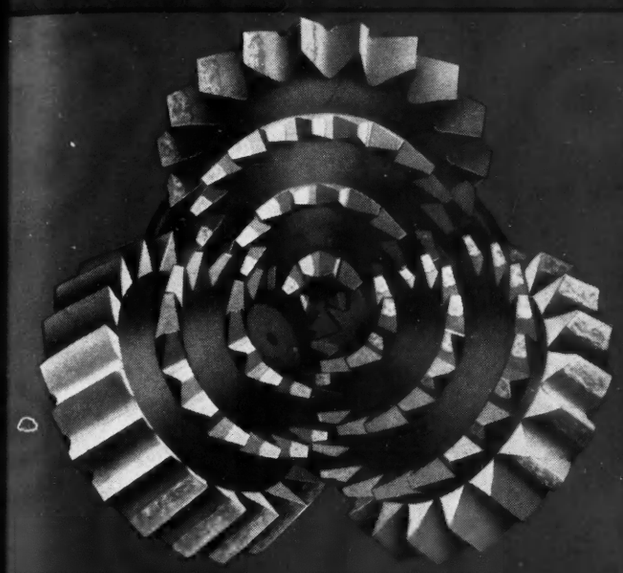
The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED



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VOLUME 31 MAY 11, 1936 NUMBER 9

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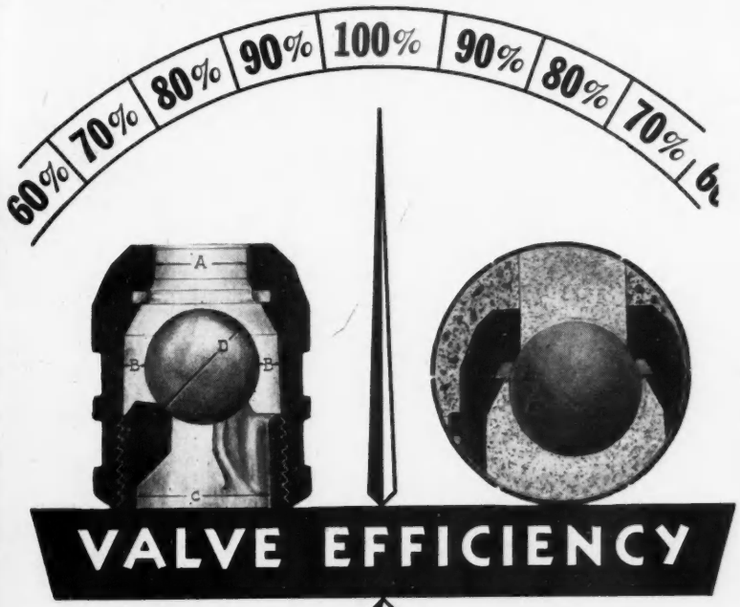

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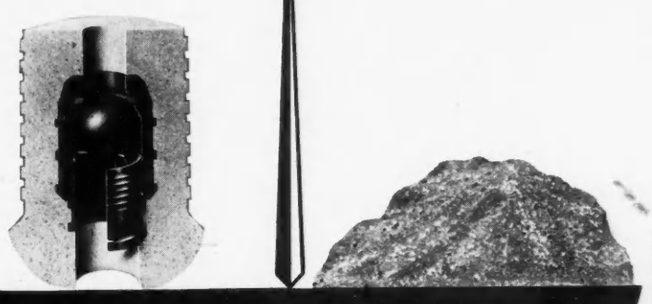
Look on pages 169 (and following) for complete details, or ask us to send you the large Baker Catalog.



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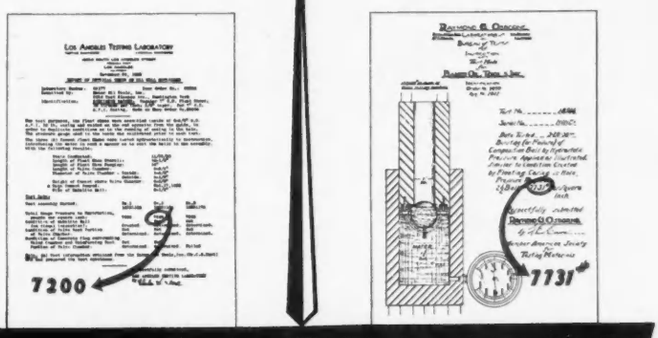
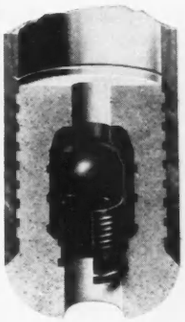
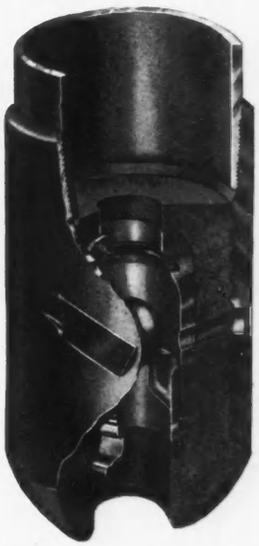


STRENGTH



Baker Cement Float Shoe, described on pages 169 to 173 of the 1936 Composite Catalog.



Baker Cement Float Collar — see page 174 of the 1936 Composite Catalog.

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MAY 13 1936

THE OIL WEEKLY

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PUBLISHED BY
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS
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Contents « May 11, 1936

Volume 81, Number 9

THIS WEEK 7

THE CHANGING PANORAMA 16

GENERAL NEWS:

Seek New Markets—Gas Companies Pledge Help to Association 8
Large Pipe Line—Shell to Build 304-Mile California System.... 9
Tulsa Is Host—Meetings and Expositions to Attract Many..... 9
Many Expected for The A. P. I. Meeting in Tulsa..... 10
Results Better—Large Earnings Reported By Numerous Oil Companies 12
Largest Exposition—Every Class of Equipment Is on Display.. 18
Field Equipment Featured at International Petroleum Exposition 20
Official Program International Petroleum Exposition.....154
Men in the Industry's News..... 15
Squeaks from the Bull Wheels.....201

MARKETS AND STATISTICS:

Market Is Heavy—Tank Car Prices are Lower in Parts of Mid-Continent 157

WORLD DEVELOPMENTS:

Barco Deal Closed—Rieber, Corwin, Brown and Ogarrio are Principals 162

FIELD REPORTS 164

NEW PRODUCTS AND MANUFACTURERS NEWS.....199

SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
TULSA.....Hunt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulations.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $2.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
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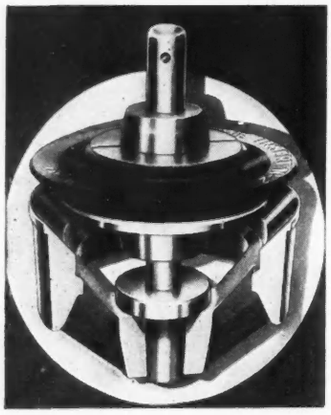
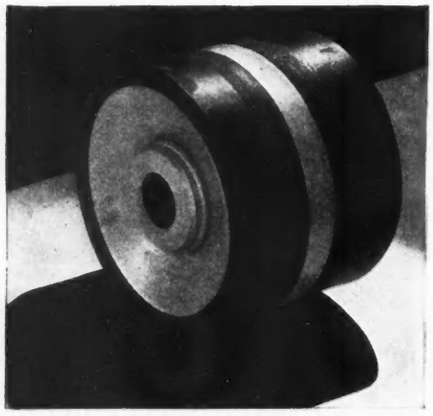


MISSION VALVES—Last 100% Longer: Seats outwear several sets of valves because the principle wear is on a removeable bushing.



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THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

CONSIDERABLE importance must be attached to the action of members of the Natural Gas Department of the American Gas Association. At their annual meeting last week they drew up and endorsed plans to seek new markets for natural gas. An appropriation of $500,000 for advertising purposes was raised. This co-operative campaign should result in many benefits to the industry. **Page 8.**

MID-CONTINENT tank car prices dropped one eighth cent last week. Obviously the gasoline market is reflecting unusually large inventories, and the continued running of huge amounts to stills. The Chicago territory was also feeling the influence of the same conditions, and gasoline prices were off one eighth cent. In East Texas efforts were being made to hold the third-grade product to the five-cent price that has held for some time. The only improvement shown has been in California, which a short time ago was in a distressed condition. Smaller crude production has helped the situation on the Coast. **Page 157.**

HOPES for higher crude oil prices, which developed a number of weeks ago, have been dissipated by recent developments. The principal factor that caused such hopes to vanish has been an excess supply of market. Although demand has been around an all-time peak, production has been so high that gasoline and crude inventories have increased. Many states are exceeding recommendations made by the U. S. Bureau of Mines for monthly production, but such estimates must be adhered to if the industry is to be able to take advantage of a large consumption. **Page 16.**

THE 1936 International Petroleum Exposition, which opens May 16 in Tulsa, will be the largest show of its kind ever held. More than 500 manufacturing and distributing concerns are displaying their products. Practically every type of equipment used by the oil industrdy will be on exhibit. Without question, the greatest array of oil field equipment ever assembled on any one site will be displayed. **Page 18.**

"THE largest reserves of crude oil are no longer In the United States, but in foreign countries," said T. Rieber, president of The Texas Corporation, in explaining to stockholders the reason behind his organization's participation in the Barco Concession deal concluded early in the week. The Texas Corporation and Socony Vacuum Corporation jointly purchased stock of South American Gulf Oil Company, giving them a 79 percent interest in Colombian Petroleum Company which owns the 500,000-acre Barco concession in Colombia. **Page 162.**

THE American Petroleum Institute Division of Production has arranged a very interesting technical program for its Mid-Year meeting. As always, numerous committee meetings will be held. To days of open sessions will discuss pertinent engineering problems. **Page 10**

ONE of the largest pipe line projects in recent years is to be commenced soon by Shell Oil Company. It will be 304 miles in length, and will run from the company's Martinez refinery on San Francisco Bay, California, to the oil field of San Joaquin Valley. Approximately $4,500,000 will be spent on the work, which will require about six months to complete. **Page 9.**

OF interest last week was the starting of 429 new tests in Texas, 195 more than the previous week and the largest number in any week during 1936. The cause of the increase was the recent district court ruling on well spacing, and many of the permits were in East Texas and were exceptions to previously enforced spacing regulations. Apparently, the field is to receive another large drilling boom. **Page 12.**

QUITE suprisingly, Lon A. Smith, one of the three members of the Texas Railroad Commission, publicly stated last week that the Interstate Compact was being used by Oklahoma and Louisiana to shackle the Texas oil industry, and that the two states were continually producing more and more above their equitable share of the nation's allowable. He strongly announced himself as opposing enforcement of the compact unless these states observe the provisions more carefully. **Page 8.**

The Oil Man's Calendar

MAY 13–15	**American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.**
13–15	**Natural Gasoline Association of America, Tulsa, Oklahoma.**
16–23	**International Petroleum Exposition and Congress, Tulsa, Oklahoma.**
19	**National Association of Purchasing Agents, Tulsa, Oklahoma.**
21	**Independent Petroleum Association, Tulsa, Oklahoma.**
22	**National Stripper Well Association, Tulsa, Oklahoma.**
29–31	**National Oil Scouts Association, Annual Meeting, Baker Hotel, Dallas, Texas.**
JUNE 4– 5	**American Petroleum Institute, Division of Production, Eastern District, Wm. Penn Hotel, Pittsburgh, Pennsylvania.**
17–20	**American Society of Mechanical Engineers, Dallas, Texas.**
18–19	**Pennsylvania Grade Crude Oil Association, State College, Pennsylvania.**
JULY 31	**Interstate Oil Compact Commission, Dallas, Texas.**
NOV. 9–12	**American Petroleum Institute, 17th Annual Meeting, Chicago, Illinois.**

Seek New Markets

GAS COMPANIES PLEDGE HELP TO ASSOCIATION IN DRIVE

DALLAS.

FORTIFIED with transmission lines that penetrate the principle industrial regions and the most thickly populated areas in the United States, the natural gas industry has perfected plans to launch its first cooperative program of a national scope in developing new markets for heat, light and power. Members of the Natural Gas Department of the American Gas Association registered enthusiasm over the new spirit of aggressiveness at the annual meeting held here May 5 to 8, and pledged whole-hearted support of the drive soon to be launched for greater markets. More than 600 executives, representatives of the industry attended.

Initial appropriation of $500,000 to be expended in advertising the merits and economical advantages of natural gas as a source of heat and energy has been pledged by the members. This nationwide campaign for new customers will begin in September, according to report submitted by the advertising committee. The cooperative program is sponsored and financed by companies holding approximately 70 percent of all meters in service.

L. B. Denning, president of Lone Star Gas Company, Dallas, and president of the American Gas Association lauded the new spirit exhibited by natural gas leaders. He stated that the public is aware of the superiority of natural gas as a fuel, but constructive sales promotion must be conducted to reach potential markets that have been made available in recent years through the building of transmission lines into new districts.

Sales promotion and utilization of natural gas was given more prominence than usual on the program.

William Moeller, Jr., Southern California Gas Company, Los Angeles, chairman, said the industry is obligated to conserve natural gas resources. He praised the work accomplished by various committees in recognizing this obligation. Unnecessary gas waste exists in many fields, where gas is produced as a petroleum by-product, and in areas permitting the popping off of gas into the air after the extraction of natural gasoline. He added that conditions within the industry have been materially improved, but that the greatest sources of waste are beyond its control.

Morning session of the second day of the meeting was devoted to reports by the Main Technical and Research Committee, and sub-committees. H. C. Cooper, Hope Natural Gas Company, Pittsburgh, was chairman of the former group. Thomas R. Weymouth, Columbia Gas & Electric Corporation, Pittsburgh, was chairman of a gas measurement sub-committee. N. C. McGowan, United Gas Public Service Company, Shreveport, submitted a report on the subject of gas well deliveries. The pipe line sub-commitee deal with trunk line problems. H. D. Hancock, Cities Service Company, New York, was chairman of the committee.

The Drilling and Completion of Gas Wells was co-authored by Geo. L. Nye, Tide Water Oil Company, Houston, and Melbert Schwartz, Seaboard Oil Corporation, Dallas. Discussion was conducted by J. H. Dunn, production engineer for Lone Star Gas Company, Dallas.

Technical Meetings

Widespread interest of natural gas men in operating practices and problems was given recognition by the program committee in arranging for a number of prominent figures in the technical field to deliver papers. R. W. Hendee, president of Oklahoma Natural Gas Company, Tulsa, prepared a paper on "Methods of Drilling Wells in Under Pressure." Operation and maintenance of gas wells from the viewpoint of conservation was discussed by V. G. Smith, engineer, Carnegie Natural Gas Company, Pittsburgh. L. A. Farmer, general superintendent of distribution, Oklahoma Natural Gas Company, Tulsa, talked on the utilization of natural gas in repressuring operations. Practical methods of maintaining efficiency of large gas lines were discussed by B. M. Laulkers, engineering supervisor, Southern California Gas Company, Los Angeles. Means have been developed to counteract the effect of accumulation of foreign matter and internal correction of lines. He advocated installation of scrubbers in preventing the concentration of dust, dirt or liquid accumulations, while partial dehydration by absorption has proven practical in checking the accumulations of gas hydrates.

R. T. Powers, engineer for Texoma Natural Gas Company, Fitch, Texas, spoke on dust proofing of compressor stations, and outlined methods adopted by his company in combatting the problem on its trunk line extending from the Texas Panhandle. E. G. Hammerschmidt, who is also with Texhoma Natural Gas Company, prepared a paper on gas hydrates. D. B. Croft, Ohio Fuel Gas Company, Columbus, Ohio, and George S. Young, United Fuel Gas Company, Charleston, West Virginia, collaborated on a paper pertaining to break horsepower analysis of compressor station costs and performance. Economical advantages of gas engineer power for cooling was stressed in a paper prepared by L. W. Melcher, Waukesha Motor Company, Waukesha, Wisconsin. C. G. Calloway, an official of the company, read the article in the absence of Melcher. The author stated that the engine driver unit first developed for railway car refrigeration, but it has since been adapted for commercial and domestic air conditioning at relatively low operating costs. S. A. Chadwell, Ohio Fuel Gas Company, Columbus, Ohio, prepared a paper on gas dispatching and operation of transmission pipe line systems.

Attacks Compact

TEXAN CHARGES THAT OTHER STATES OVERPRODUCE

AUSTIN.

RAILROAD Commissioner Lon A. Smith has issued a statement opposing the enforcement of the Interstate Oil Compact, unless the states other than Texas observe more carefully the provisions of the pact.

Smith charges that Oklahoma and Louisiana have been guilty of overproduction, and charged further that the Interstate Compact probably centered control in Washington, shackling the Texas oil industry.

"The Oil Compact has served its main purpose, which was to sidetrack federal control, and the states seem to be letting up on it now. Oklahoma is producing more all the time, and has consistently produced more than its ratable share compared to Texas. The Rodessa field is giving Louisiana more than its equitable share.

"The main purpose of the compact was to sidetrack federal control of the industry. It has done that temporarily, but federal control is being agitated anew, and unless the states watch their steps it will come to the front again.

"If all states would rigidly observe the compact it would be all right and useful, but the way it is operating now it is hurtful to Texas.

"If other states do not curtail production the Texas Railroad Commission should increase the allowable. It would not affect the price, because the demand for oil is greater, and production generally has declined. Decreases in production have been noted in all except localized areas, notably in some parts of Oklahoma, Rodessa, and in the Corpus Christi field in Texas."

Commissioners Thompson and Terrell declined to comment on Smith's surprising statement. Terrell, however, said that he would vote to continue the compact when the time came. Thompson, of course, has been one of the most active advocates of the plan.

Austin observers noted that Smith seemed to have the impression that the compacting states had agreed to limit production on the basis of demand. The compact, however, provides that production shall be restricted for the one purpose of preventing physical waste.

Large Pipe Line

SHELL IS TO BUILD A 304 MILE CALIFORNIA SYSTEM

SAN FRANCISCO

PLANS for a new crude oil pipe line to connect San Joaquin Valley oil fields with Shell Petroleum Company's refinery at Martinez on San Francisco Bay in California were announced May 2 by S. Belither, president of Shell Oil Company. The new pipe line will cost $4,500,000 and will be one of the largest pipe line development projects ever undertaken in the Pacific Coast oil industry. It will also be one of the biggest industrial expansions of any kind on the Coast in recent years.

"Confidence in the future is the basis for our decision to begin a major project at this time," Belither said. "Shell believes that the Pacific Coast is entering a period of steady economic progress, and that the oil industry will expand and develop in proportion to the growth of other business and the Coast's population. The new pipe line is a natural step in the development of the Shell organization. It will provide transportation for crude oil at maximum efficiency and low cost."

Belither said that work on the new pipeline would start in the near future, and will require about six months to complete. Of the $4,500,000 to be spent, up to $2,000,000 will be paid out directly in wages.

The new Shell pipe line will be 304 miles in length. One section of 90 miles will extend from Bakersfield to Caliola, southern terminus of Shell's present pipeline, about 10 miles northeast of Coalinga. Another section will connect Caliola with Martinez. Later all lines from the oil fields will add another 44 miles to the new project, making a total of 304 miles of new construction.

Four sizes of pipe will be laid; six, eight, ten and twelve inches in diameter. The main line will be ten inches, and altogether about 25,000 tons of pipe will be used.

Capacity of the new line will be about 25,000 barrels a day from Bakersfield to Caliola. The new line and the existing Shell pipe line will give Shell a capacity of 40,000 barrels a day from Caliola into the Martinez Refinery.

Pumping equipment installed in the new project will be of the most advanced type, with operating pressures of 1000 pounds between Bakersfield and Caliola, and 800 pounds from Caliola to Martinez. Four new pumping stations will be erected on the stretch from Bakersfield to Caliola. Existing stations from Caliola to Martinez will handle the increased flow of oil, but all of them will be re-equipped and made thoroughly up-to-date.

75-MILE OIL LINE

Kettleman Hills to get another large outlet

LOS ANGELES.

FOR the purpose of building and operating a pipe line from Kettleman Hills to a point on Estera Bay, a distance of approximately 75 miles, Valley Pipe Line Company has been organized with a capital of $2,000,000 by The Texas Company and Seaboard Oil Corporation. Announcement was made May 5 that the contract had been awarded to Lang Transportation Company of Los Angeles. It is understood the cost will be $1,500,000, that work will start at once, and to be finished about August 10.

The Kettleman Hills field was discovered by Milham Exploration Company, a subsidiary of Seaboard Oil Corporation, but since that time the old name has been discarded in favor of the parent company's name. Officers of the pipe line company are C. P. Watson, president; L. R. Holmes, vice president; W. A. Russell, treasurer; Paul Balengee, assistant treasurer; A. W. Mitchem, secretary, and C. H. Montgomery, assistant secretary. Holmes, Balengee and Montgomery are officials of The Texas Company while the other three are connected with the Seaboard Oil Corporation.

Ten-inch welded seamless pipe will be used and the daily capacity will be a minimum of 15,000 barrels. The line will approximately parallel the line built by Standard Oil Company of California. Necessary storage will be built at the terminus on the bay, and tankers will then move the oil to Los Angeles or to any other point desired. Number of pumping or booster stations have not yet been announced.

It is understood that Seaboard Oil Corporation's production at Kettleman Hills will be thus moved and it is possible that other oil will be moved, if conditions warrant.

DALLAS SCOUTS READY

Preparations completed for the meeting

DALLAS.

COMMITTEE in charge of entertainment and special features for the annual convention of the National Oil Scouts' Association of America to be held here May 29-31 have about completed all arrangements, according to Harold Boyd, chief scout for Magnolia Petroleum Company, secretary-treasurer of the organization. Talks of a semi-technical nature on operating practices will be delivered at the business sessions by prominent engineers. John H. Langston, chief scout for Sun Oil Company, is chairman of the committee, and Paul R. Martin, head scout for Pure Oil Company, is chairman of the Fort Worth subcommittee.

Tulsa Is Host

MEETINGS AND EXPOSITION ARE TO ATTRACT MANY

TULSA.

EVENTS preliminary to the opening of the Ninth International Petroleum Exposition will get under way May 13 with the opening of the annual meeting of the Natural Gasoline Association of America and the Mid-Year meeting of the American Petroleum Institute. In addition the first American meeting of the Institute of Petroleum Technologists of London will take place.

Sessions of the Natural Gasoline Association of America will be held in the Tulsa hotel May 13, 14 and 15. Events of the American Petroleum Institute meeting will be at the Mayo hotel, May 14 and 15. The dinner and meeting of the Institution of Petroleum Technologists will be held at the Mayo hotel the evening of May 15.

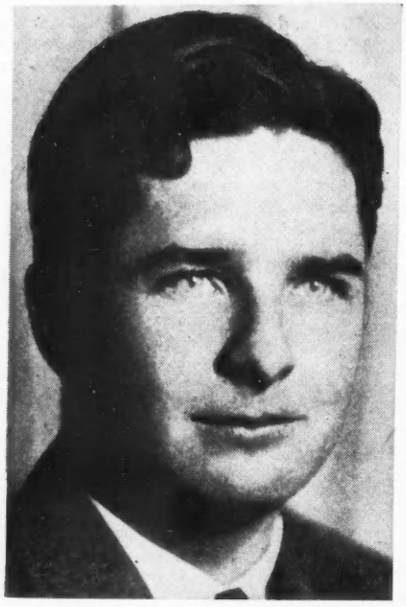
The entertainment for the meeting of the American Petroleum Institute will be staged the evening of May 14 in the coliseum at Tulsa.

These meetings will be completed for the formal opening of the exposition May 16. Opening ceremonies will take place at 2 o'clock in the afternoon, although the gates will be opened at 9:30 in the morning.

During the eight days of the exposition there will be meetings of other organizations. May 21 the Independent Petroleum Association of America will have sessions. At 2 o'clock its directors will meet at the Mayo hotel. This organization will have its banquet that evening. The petroleum group of the Oklahoma section of the American Chemical Society will meet at 6:30 p.m. May 23, in the Alvin hotel.

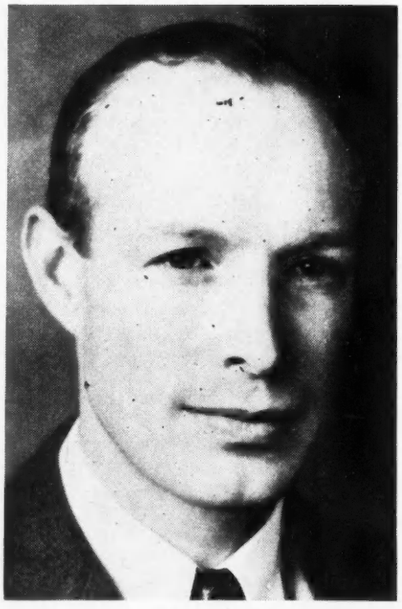
International Petroleum Exposition Program on Page 154

Many Expected Meeting



T. V. MOORE

T. V. Moore, Humble Oil & Refining Company, Houston, is chairman of the A. P. I. Division of Production Central Committee on Drilling and Production Practice, and of its Executive Committee. He served as chairman of the Program Committee in 1935. Moore was born September 5, 1907, at Omaha, Nebraska. He received the degree Bachelor of Science from Virginia Military Institute in 1925, the degree of Bachelor of Arts from Rice Institute in 1926, and the degree Master of Science from Massachusetts Institute of Technology in 1929. He has been associated with Humble Oil & Refining Company since 1927, having served as chemical engineer in 1927 and 1928, as research engineer from 1929 to 1933, and since 1933 as head of the Production Research Department. He has been active for several years in the Institute's Division of Production.



PAUL G. EXLINE

Paul G. Exline, who speaks Friday, May 15, on "A Precision Gage for Sub-surface Pressure Measurements," before the Division of Production group session on drilling and production practice, is affiliated with Gulf Research and Development Corporation, at Pittsburgh, Pennsylvania. He was born at Midvale, Ohio, April 18, 1903, and was graduated by Mount Union College and the graduate school of the University of Pittsburgh. He spent five years at Mellon Institute engaged in physical research and development for the Koppers Company, and in May, 1933, joined the Gulf organization to work on subsurface devices and journal bearing lubrication.

ALBERT G. ZIMA

Albert G. Zima, of International Nickel Company, Los Angeles, California, speaks Friday morning, May 15, on "Nickel-Alloy Steels in Drilling Equipment," before the Division of Production group session on drilling and production practice. Zima, born August 23, 1897, at Plymouth, Iowa, was graduated in 1924 with the degree Bachelor of Science in Chemical Engineering by the University of Minnesota. He was a metallurgist with Western Crucible Steel Casting Company, at Minneapolis, Minnesota, until 1930, and then entered the development and research department of International Nickel Company at New York. In January, 1936, he became western representative with the development and research division of the company at Los Angeles, with the Texas oil country and the area west of Denver, Colorado as his territory. For three years he was a member of the U. S. Marine Corps, and served over-seas during the World War with the Sixth Regiment.

TULSA.

THE Division of Production of the American Petroleum Institute's Sixth Mid-Year meeting at Tulsa, May 13, 14 and 15, is expected to bring together hundreds of engineers for the discussion of problems pertinent to this branch of the industry. Various subjects and phases of development will be considered during the program, at the times and places indicated in the accompanying schedule.

The Special Study Committee on Allocation of Production will hold a closed luncheon meeting Wednesday noon, May 13, in the English Room. The Topical Committee on Materials will meet Tuesday morning, May 12, at 9 o'clock, in Room 319. The Topical Committee on Production Practice will meet Wednesday morning at 9 in Room 318. An informal meeting will be held, at a time to be announced, by the Engineers' Sub-committee of the Committee on Standardization of Oil Field Boilers.

A joint meeting of the Topical Com-

American Petroleum

Thursday, May 14, 1936
9:00 A.M.

DRILLING AND PRODUCTION PRACTICE:
(16th Floor—Crystal Ball Room)

(Sponsored by the Central Committee on Drilling and Production Practice.)

Presiding: F. W. Floyd, The Carter Oil Company.

Economic Life of Sucker Rods.
Emory Kemler, Gulf Oil Corporation of Pennsylvania.

Back-Side Crank Pumping and Catenary Rod Lines.
R. E. Bridges, Humble Oil and Refining Company.

Application of Multi-Cylinder Gas Engines.
D. G. Kingman, General Petroleum Corporation of California.

Casing-Line Data and Application.
Roy B. Southworth, Columbia Steel Company.

10:00 A.M.

BOARD OF DIRECTORS
(16th Floor—Lounge Room)
2:00 P.M.

DRILLING AND PRODUCTION PRACTICE:
(16th Floor—Crystal Ball Room)

(Sponsored by the Central Committee on Drilling and Production Practice.)

Presiding: J. T. Hayward, Barnsdall Oil Company.

Rotary-Drilling Practices.
J. E. Brantly, Drilling and Exploration Company.

Welded Joints for Oil-Well Casing.
Marvin Cook, Humble Oil and Refining Company.

For The A. P. I. In Tulsa

mittees on Drilling Practice and on Production Practice will be held in Room 318 at 9 o'clock Wednesday morning, May 13. On Tuesday, May 12, the Manufacturers' Subcommittee of the Committee on Standardization of Oil Field Belting will meet at 9 a.m., in Room 323, the Engineers' Subcommittee will meet in Room 317 at 2 p.m., and a joint meeting of the subcommittees will be held at 8 o'clock in the evening in Room 317.

The Special Study Committee on Well Spacing will meet at 2 p.m., Wednesday afternoon in Room 310. At 9 o'clock Thursday morning the Conference Subcommittee on Longitudinal Use of Railroad Property will meet in Room 323 and the Topical Committee on Corrosion of Pipe Lines will meet in Room 313. A joint meeting of bolted tank manufacturers and the Committee on Accident Prevention in Production will be held Wednesday morning at 9 o'clock in Room 314. The Engineers' Subcommittee on Tanks will meet at 2 p.m., Wednesday in Room 309, and at 8 p.m., Wednesday night the main tank committee also will meet in Room 309.

Institute Program

Use of Recording Pressure Gages in Drill-Stem Tests.
R. S. Christie, Amerada Petroleum Corporation.

Pressure Completion of Wells in the Fitts Pool.
K. R. Teis, E. H. Moore, Inc.
7:00 P.M.

COMPLIMENTARY DINNER
(Coliseum)

The local oil companies in Tulsa have arranged for a complimentary dinner and entertainment, at the Coliseum, for the out-of-town members attending the Sixth Mid-Year Meeting. It will be informal. Those who expect to attend will be requested to so indicate at the time of registration.

Friday, May 15, 1936
9:00 A.M.

DRILLING AND PRODUCTION PRACTICE:

(16th Floor—Crystal Ball Room)
(Sponsored by the Central Committee on Drilling and Production Practice.)

Presiding: H. H. Power, Gulf Oil Corporation of Pennsylvania.

Productivity Index.
M. L. Haider, The Carter Oil Company.

A Precision Gage for Sub-surface Pressure Measurements.
Paul G. Exline, Gulf Research and Development Corporation.

Nickel-Alloy Steels in Drilling Equipment.
A. G. Zima, International Nickel Company.

Degree of Reduction of Sediments in the East Texas Basin as an Index of Source Beds.
Parker D. Trask, U. S. Geological Survey, and
W. Ross Keyte, A.P.I. Research Fellow.

Dr. Blaine B. Wescott, of Gulf Research & Development Corporation, Pittsburgh, Pennsylvania, has been active in American Petroleum Institute work for years. He is chairman of the Program Committee of the Division of Production Central Committee on Drilling and Production Practice. He is also vice-chairman of the Central Committee, and former chairman of the Topical Committee on Materials. Dr. Westcott was born at Syracuse, New York, July 7, 1895, and was graduated by Syracuse University and by the graduate school of the University of Pittsburgh. After being engaged in industrial metallurgical research at Mellon Institute for six years, in June, 1927, he entered Gulf Oil Corporation's newly-organized Research Department, predecessor of the present Gulf Research and Development Corporation.

DR. BLAINE B. WESCOTT

R. E. BRIDGES

R. E. Bridges, Humble Oil & Refining Company is scheduled to present a paper, "Back-Side Crank Pumping and Catenary Rod Lines," before the drilling and production practice group session, Thursday morning, May 14. Bridges was born in Texas. He graduated in engineering at Texas A. & M. College in 1922, and has been affiliated with Humble Oil & Refining Company since 1923. He now holds the position of division engineer, and is located at Wichita Falls, Texas. During recent years he has investigated and studied surface pumping equipment, power balancing, etc.

J. E. Brantly, of Drilling and Exploration Company, Avenal, California, who speaks Thursday afternoon, May 14, on "Rotary Drilling Practices" before the Division of Production group session on drilling and production practice, is the author of several volumes on geology published by the Georgia and Alabama Geological Surveys, and of numerous technical papers concerning geology and rotary drilling. He has invented and developed a number of instruments, machines, and tools used in drilling for oil. John Edward Brantly was born June 25, 1892, at Macon, Georgia, was educated in mining engineering and geology at the University of Alabama, where he later was a member of the faculty, and in the Colorado School of Mines. Prior to enlisting for service in the World War he was assistant state geologist of Alabama. After the war he became first a consulting geologist and later chief geologist for The Atlantic Refining Company, working in Mexico and South America. In 1929 he organized, and since that time has been president of the Drilling and Exploration Company.

J. E. BRANTLY

Results Better

LARGER EARNINGS REPORTED BY NUMEROUS OIL COMPANIES

ADDITIONAL oil companies lately have issued reports on financial results in the first three months of 1936, while there have been also further annual reports covering 1935. In each class of reports higher earnings were common, in comparison with the similar period a year ago.

Continental Oil Company and subsidiaries for the first quarter of 1936 reported net profit of $2,114,521, or 45 cents a share on outstanding capital stock, compared with $940,807 or 20 cents a share in the similar period last year. In the first quarter of 1934 the net income was $1,211,483.

Cities Service Company and subsidiaries reported first quarter net income of $3,094,030 after taxes, interest, amortization, subsidiary preferred dividends, depletion, depreciation, and so forth, compared with $1,853,033 in the similar period of 1935.

Barnsdall Oil Company, formerly Barnsdall Corporation, and subsidiaries for the 1936 first quarter reported net profit of $471,043 after interest, federal taxes, depreciation, etc. For the first quarter of 1935 Barnsdall Corporation reported net loss of $337,839.

Phillips Shows Improvement

Phillips Petroleum Company reported net profit in the first quarter of 1936 was $3,156,159, or 76 cents a share, compared with $1,542,334 or 37 cents a share in the similar period last year.

Signal Oil & Gas Company, operating in Southern California, reported that earnings in the first quarter of 1936, equivalent to 58 cents a share, were in excess of earnings for the whole year 1935, totaling 48 cents a share. S. B. Mosher, president, predicted further increased earnings for the rest of 1936.

Bolsa Chica Oil Corporation in the 1936 first quarter showed a profit of $18,000, compared with a loss of about $28,000 in the similar period of 1935. Production of the company now is close to 1400 barrels daily. C. W. Lord, who has been acting president during recent months, was made president at a recent meeting.

Lion Oil Refining Company in the 1936 first quarter reported net profit of $107,956 after depreciation, depletion, etc., before federal taxes. That compared with net loss of $161,931 in the similar period last year.

Louisiana Land & Exploration Company will show a substantial improvement in net income for the first quarter of this year over that period last year. Crude production is considerably higher now than a year ago and above the 30,000 barrels a day at the end of 1935. It is indicated that for 1935 the company earned over 30 cents a share on the 3,000,000 shares of $1 par capital stock outstanding. In 1934 the net income was $460,693 or 15 cents a share. The company holds 700,000 acres in fee and about 500,000 acres under lease, in coastal Louisiana. On all except 150,000 acres, development is carried out by The Texas Company, which pays 25 percent royalty on oil and gas in addition to 8-1/3 percent of the net profits realized on each dome.

Profit Compares With Loss

Mid-Continent Petroleum Corporation reported for the March quarter of 1936 net income of $942,659 or 51 cents a share, compared with a loss of $273,058 in the similar period last year. Better refined product prices and more business were responsible for the improvement. In 1935 the company had the highest annual net income since 1929. The net for 1935 of $2,417,176 or $1.31 a share compared with $828,093 or 45 cents a share in 1934.

Seaboard Oil Company of Delaware and subsidiaries in the first quarter of 1936 had net profit of $612,126 or 49 cents a share, compared with $439,177 or 35 cents a share in the corresponding three months of 1935. In the 1934 first quarter the net profit was $368,219.

Shell Union Oil Company in the 1936 first quarter reported net profit of $1,681,984, compared with a deficit of $1,121,041 a year ago. Better prices and larger volume of business caused the improvement.

Pacific Western Oil Corporation and its wholly owned subsidiary reported for the first three months of 1936, subject to year-end adjustments, net profit of $323,506 after abandonments, depletion, lease amortization, depreciation, federal taxes, interest, and so forth, equal to 32 cents a share on 1,000,000 no par shares of capital stock. In the similar period of 1935 the company had profit of $154,281 or 15 cents a share. In that period of 1934 the profit was $202,090.

Panhandle Producing & Refining Company and subsidiaries for the first three months of 1936 reported net profit of $30,430 after taxes, depreciation, depletion, interest, etc., equivalent to $1.81 a share on 16,800 shares of 8 percent cumulative preferred stock, on which there is an accumulation of unpaid dividends. In the first quarter of 1935 the company had net loss of $38,056.

Dividends Declared

Dividends have been declared lately by several oil companies. Standard Oil Company (New Jersey) declared the regular semi-annual dividend of 50 cents a share and an extra of 25 cents. Previously, the company paid 15 cents quarterly and 10 cents extra.

Standard Oil Company (Indiana) directors last week declared an extra dividend of 15 cents a share in addition to the regular 25 cent quarterly payment. The extra dividend reflects higher earning power of the company. The concern last year earned $1.98 a share, the most since 1930, compared with $1.25 in 1934, and this year is showing results somewhat better than last year, due to larger crude production, increased sales volume, and better prices. Last week the company received its final payment of about $9,500,000 from Standard Oil Company (New Jersey) for its foreign properties. For the properties the company received total of $47,910,107 cash and 1,778,973 shares of Standard of New Jersey stock.

Standard Oil Company of California recently declared an extra dividend of 5 cents a share and the regular quarterly dividend of 25 cents a share. As Standard Oil Company (New Jersey) declared an extra payment of 25 cents a share in addition to the regular 50 cent semi-annual dividend, three different companies in the Standard Oil group have authorized special disbursements.

Annual Reports Made

Figures on 1935 financial results have been revealed by various companies in addition to concerns previously mentioned in these columns.

Continental Oil Company for 1935 reported net income of $2,114,520 or 45 cents a share, compared with $4,755,608 or $1.02 a share in 1934.

Pierce Petroleum Corporation for 1935 reported net income of $124,355, equal to 5 cents a share, compared with $227,658 or 9 cents a share in 1934. In 1933 there was a loss of $91,537. Pierce Oil Corporation for 1935 re-

[*Continued on page 160*]

PERMITS AT HEIGHT

Spacing decision causes East Texas flurry

AUSTIN.

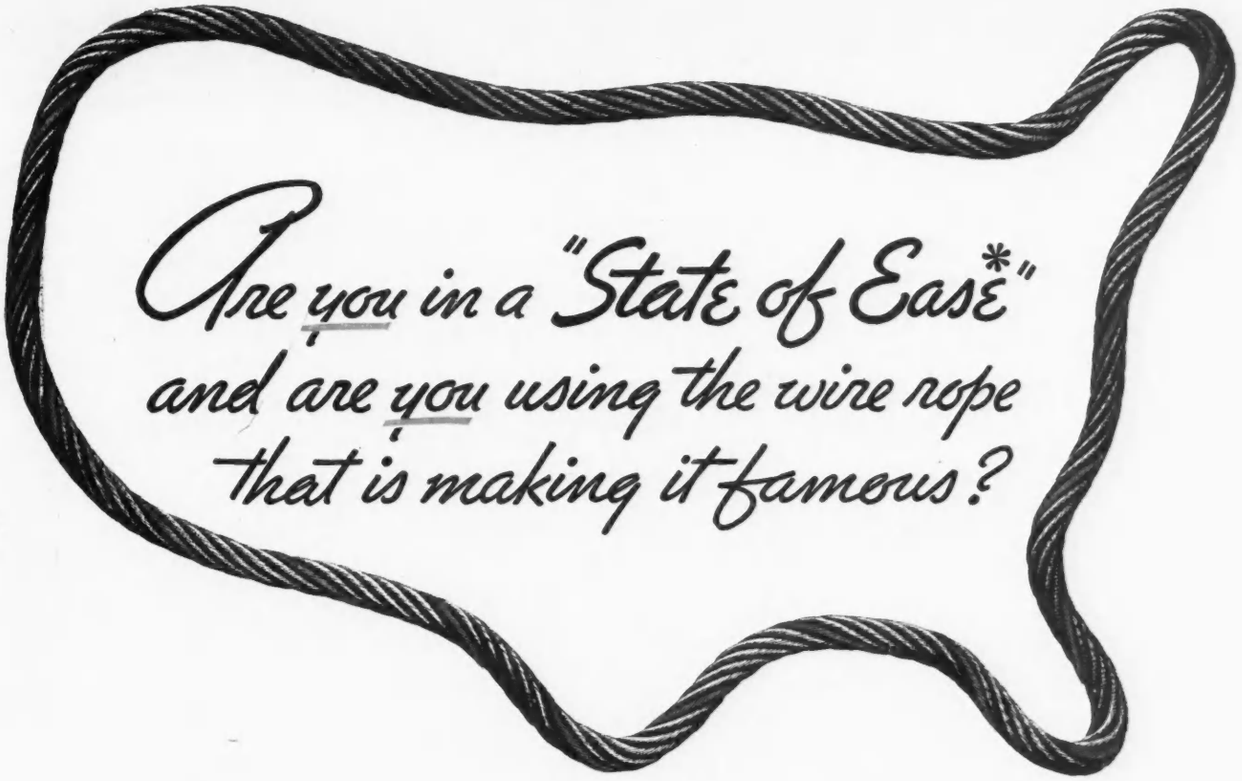
TEXAS drilling operations are to increase if the past week is any indication. More permits to drill were issued by the Texas Railroad Commission the past week than during any previous week of 1936. A total of 429 new wells, or 195 more than the previous week, were granted.

The increase is due largely to a greater number in the East Texas field, where 104 permits were approved. The majority of these were exceptions to the spacing rule in the East Texas field, and are the result of a ruling two weeks ago by a district court in which it permitted an exception to previously enforced spacing rules. This decision may mean another boom in East Texas drilling activity. There were 39 permits in Gregg County, 36 in Rusk County, 19 in Upshur County, nine in Smith County, and one in Cherokee County.

North Texas operators reported 87 permits in Archer County and 38 in Young County. West Central Texas operators reported 24 new locations. The Gulf Coast listed 71 permits with 21 wells in Nueces County and 17 in Jefferson County, most of which were in the new Amelia area.

Southwest Texas operators reported 60 permits with 32 in Duval County.

East Central Texas listed 37 new locations with 20 in Titus County, most of which were for wells to be drilled in the Talco Townsite as exceptions to the spacing rule. The Panhandle reported 24 new locations, and there were 23 from West Texas.



* The term "State of Ease" is taken from Slocum and Hancock's book "Strength of Materials" which quotes Prof. Karl Pearson: "A body which is free from internal stress is said to be in a STATE OF EASE."

ARE you, as a wire rope user, in a "state of ease"? Are you easy in mind—sure you are getting all that wire rope should give you? Are you using the wire rope that is "free from internal stress"?

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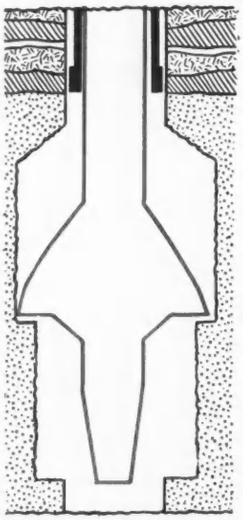

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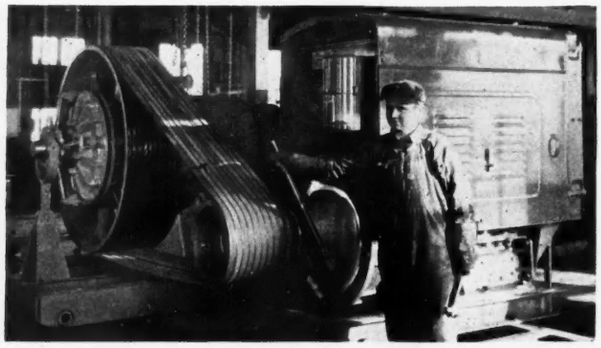

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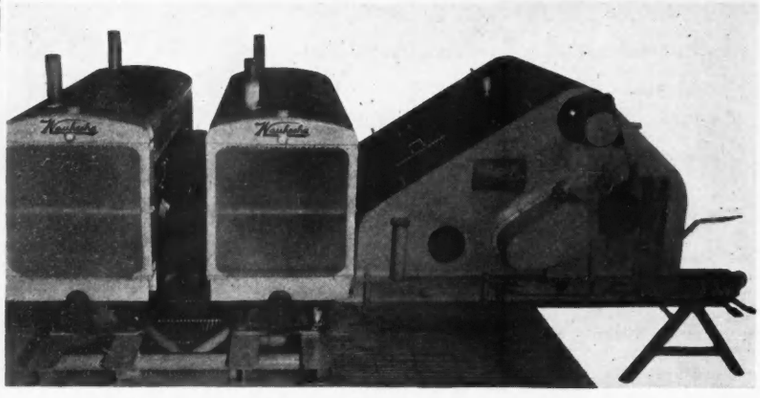

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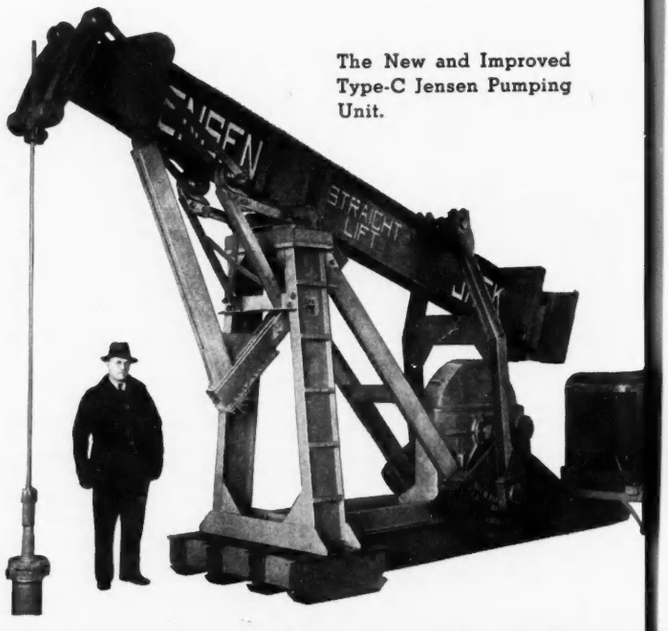

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MEN IN THE INDUSTRY'S NEWS

EARL WHITEHILL, member of the firm Harmon and Whitehill which operates extensively in northeastern Oklahoma, has returned to his home in Nowata, Oklahoma, after being a patient in the Army and Navy hospital at Hot Springs, Arkansas, for the past 10 months. His health is reported to be very materially improved.

WATSON B. JOYES, formerly vice president and general manager of Ryan Consolidated Petroleum Corporation, has been elected president of the company. He succeeds Phelan Beale who was elected chairman of the board of directors. Joyes has been with the Ryan organization only about three years.

RICHARD B. RUTLEDGE, geological department of Skelly Oil Company, discussed the Cunningham pool in Kingman County, Kansas, at the Monday, May 4, meeting of the Tulsa Geological Society.

GEORGE SCHWAB, head of the land department for Barnsdall Oil Company, returned to Tulsa late in the week from a business trip to Texas.

H. L. ALBRECHT, treating engineer for Dowell Incorporated, has been transferred from Tulsa to Midland, Texas. Harold Adkison, treating engineer in the Great Bend, Kansas, district has been transferred to New Mexico.

JULIUS SLAVICK, production engineer for E. H. Moore, Inc., is reported in a serious condition in an Ada, Oklahoma, hospital following an automobile accident in which Philip Cates, also an employe of the company, was killed. Tom Terry, another employe, was the driver of the car which crashed into a train near the town of Tupelo in Coal County, Oklahoma, in Friday, May 1. Slavick formerly was with Stanolind Oil & Gas Company with headquarters in Tulsa.

C. BONNAMI of Houston, vice president of Petrograde, Incorporated, a new Belgian firm which took out a permit to do business in Texas recently, was erroneously titled in the May 4 issue of The OIL WEEKLY as being also a vice president of Petrofina Corporation of Belgium, the parent company.

RENE BERG, Paris France, head of Societe Rene Berg, sailed from France April 29 to attend the exposition at Tulsa as the official delegate of Association Francaise des Techniciens du Petrole and of the World Petroleum Congress and Exposition, the latter of which will be held in Paris next year.

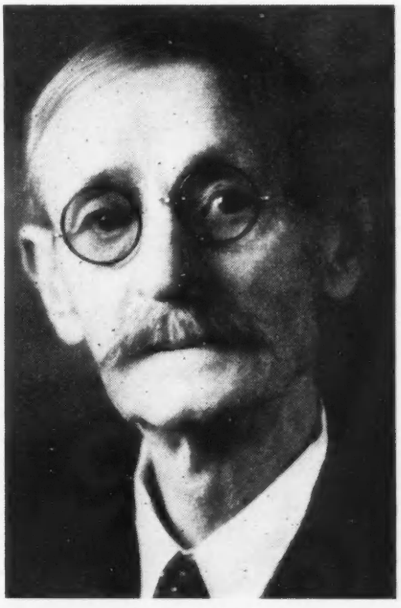
B. E. SAGER, former farm boss for Continental Oil Company in Lea County, New Mexico, has been employed by Illinois Oil Company, Dallas, as field superintendent in the Kermit area, West Texas.

L. L. DIMIT HAS HAD AN ACTIVE AND INTERESTING CAREER IN THE OIL INDUSTRY

»

HE IS ONE OF THE OLDEST OF LIVING PIONEERS

»



L. L. DIMIT

L. L. DIMIT, 85 year old citizen of Neosho, Missouri, whose boyhood days were spent carrying water and pumping oil for Colonel Drake's old employer back in Pennsylvania and whose married life resulted in contribution of three practical men to the oil industry, is one of the nominated candidates for the "Grand Old Man of the Petroleum Industry" award to be made in connection with the International Petroleum Exposition in Tulsa, May 16-23.

Dimit was born in Allegheny County in 1851, and 11 years later was errand and water boy in a Pennsylvania field. In 1867, when papers were carrying reports that so much oil was being produced it was impossible to take care of it and that the supply would soon be exhausted if something were not done to prevent the waste. Dimit was pumping for Jonathan Watson & Company. (Watson was one of the organizers of Pennsylvania Rock Oil Company for which Colonel Drake was working when he drilled the first oil well.

In 1870, When John D. Rockefeller organized Standard Oil Company of Ohio, Dimit went to work for Shealds, Adams & Company at Parker's Landing field Pennsylvania, where about 100 rigs were running. In those days a driller who could finish 668 feet of hole in 28 days was considered fast.

Dimit recalls that in 1872 producers in this field were protesting against the suggestion of a tax on production. In the same year they shut in wells, demanding five dollars per barrel for oil. However, Parker's Landing oil was bringing only $2.20 per barrel in 1873.

By 1875 Parker's Landing had become the "East Texas" of early Pennsylvania and Dimit was one of the boomers, remaining in the field all during its heydey and entering employ of Bettman, Watson & Bernheimer. Meanwhile there occurred in 1877, the great rush to Bradford field and the railroad strike which cut off all shipments and filled all natural and manufactured storage.

Two years later, in 1879 ,Dimit watched the discovery and growth of Crawford's Corners pool, where 40 active rigs were working soon after discovery.

While with Bettman & Watson, Dimit had his first experience with oil legislation, a bill being passed in 1881 requiring owners to plug wells when abandoning them.

Those were the days, he says, when dry holes were referred to as being "hopelessly" dry, a reference which may have had something to do with a decision handed down in 1887 by a Pittsburgh judge declaring oil speculation to be gambling and an illegal business.

The Pittsburgh judiciary again entered the picture in 1891, according to Dimit, when a decision was handed down making it illegal to pump wells on Sunday.

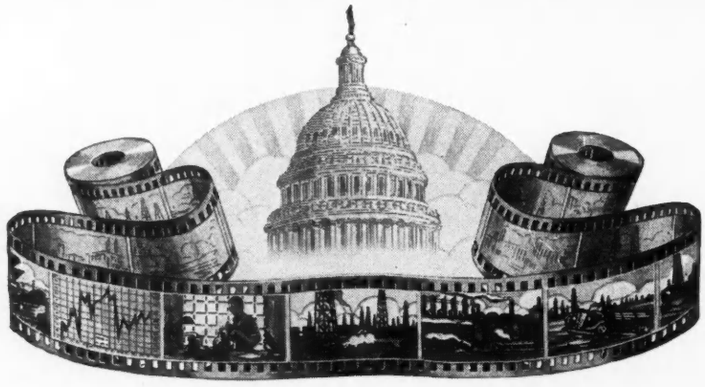
Bettman & Watson transferred Dimit to Grant County, Indiana, in 1898. From Indiana he was transferred to Bellmount, West Virginia, acting in the same capacity.

When the Bettman, Watson and Bernheimer interests became Hudson Oil Company in 1900, Dimit returned to Indiana as general superintendent of all departments, remaining there until 1916, when he was transferred to Bowling Green, Wood County, Ohio. The trend of the oil producing business at this time was westward, and 1918 found Dimit settled with his family in Morris, Oklahoma.

In 1919, Dimit went with Gypsy Oil Company, now Gulf Oil Corporation, and remained with that organization until his retirement in 1927 at the age of 76.

"The one thing in which I take the most pride is not my record, but my family, and my sons who have adopted the same pursuit as their father," Dimit says. "Three practical oil men is my contribution to the petroleum industry." His sons are W. H. Dimit of Fly, Ohio; J. L. Dimit, Gulf Oil Corporation, Sapulpa, Oklahoma, and C. P. Dimit, vice president of Phillips Petroleum Company, Bartlesville, Oklahoma.

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by L. J. LOGAN, Associate Editor

WITH some good reasons, there is considerable wistfulness in the oil industry—a sense of opportunities missed and of partial frustration. Some weeks ago there were rising hopes for higher crude oil prices. Those hopes have grown weak or vanished, as regards the immediate future. Gasoline and kerosene prices, although comparatively high, are unchanged from levels that have prevailed for several weeks. Many had hoped that by now the product prices would be higher, and that such improvement would constitute the basis for better crude postings.

Earnings were good in the first quarter of 1936 and are proving favorable in the second quarter. But they are not quite measuring up to the highly optimistic expectations that some were entertaining several weeks ago. The markets have not entirely fulfilled the bright possibilities that seemed to loom ahead.

Excess Supplies Retard Markets

As is quite common in similar circumstances, there is much reflection as to exactly what has happened to prevent the full realization of yesterday's hopes.

The answer seems to boil down largely to the old, familiar one that has explained so many of the industry's difficulties, throughout the years: excessive supply. Despite the fact that petroleum demand has been running around all-time peak proportions for this time of year, the markets have not benefited accordingly because the supplies of crude oil and gasoline have increased more than proportionately with the demand.

Gasoline inventories were built up in March to an unprecedented peak, and the prices have been faltering vecause of the heavy supplies, even though the stocks are reported largely in "strong" hands. The severe weather of late winter caused the gasoline stocks to pile up in greater quantities than was intended.

Despite heavy runs of crude at the refineries, the country's oil wells were putting out in April more oil than could be absorbed. The surplus, although not great, meant that crude was run to storage for the second successive month. When the hopes for further crude price gains were running high in February, the industry still was in the protracted process of taking crude oil from storage.

Crude Control Offers Difficulties

Clouding the picture for a while was the threat of a breakdown of crude production control at Rodessa. That threat has been partially removed, but not entirely to the satisfaction of many. Louisiana's production seems headed inexorably toward substantially greater proportions. Heavy consumption of petroleum during the spring and summer may partially or wholly take up the slack to be caused by the growing Louisiana output. But other states lately have been jealously watching Louisiana, and there is a possibility they may work their production upward to such extent as to leave insufficient room in the market for the added supplies put out by Louisiana.

From among the state oil control agencies there have come soft words, giving assurance that the states still are heartily cooperating, and that they do not intend to stray far away from the recommendations of the Bureau of Mines in fixing production allowables. But at the same time some of these state bodies have fixed allowables substantially above the bureau suggestions. With carefully chosen language, it is explained that plans contemplate no net excess will be shown at the end of the month.

Bureau Allocations Exceeded

Results, of course, are what count. And lately the results have not been satisfactory. In April each of the five leading producing states averaged more crude production per day than the Bureau of Mines allocation to the state. Furthermore, there was a pronounced trend away from the federal allocations. Four of the leading producing states, Louisiana, Texas, Oklahoma, and Kansas, showed greater excesses in April than in March; while only California among the "big five" exhibited a closer observance of the bureau advice. Moreover, allowables in effect in May threaten to bring again this month a substan-

tial national excess. In April the national excess was about 115,000 barrels daily, compared with 75,000 barrels a day in March.

Cooperation Among States Needed

In view of the heavy inventories of gasoline, rigid restraint of refinery operations is being urged, to permit speeding up of withdrawals from storage. In that connection, strict control of crude output also will be highly essential.

The state agencies, as well as the industry, recognize the importance of exercising these restraints. But some of them apparently have not fully realized that no state can even momentarily reliquish its strict control and depend on the other states to right matters. Straying away from the demand figures encourages other states to do likewise, and the whole market stability is endangered.

Louisiana Exceeding Bureau Quotas

In this connection, considerable anxiety has been generated by the large margins by which Louisiana officials consistently have fixed allowables above the federal allocations. In March Louisiana actually produced 40,000 barrels a day more than the Bureau of Mines allocation, and in April 50,000 barrels a day more. In May a similarly large excess is due, under the present allowable, which authorizes state output of 212,725 barrels daily, or 42,225 barrels per day more than the Bureau of Mines estimate of market demand. Dr. J. A. Shaw, director of the minerals division of the Louisiana department of conservation, has stated that by mid-summer the state's daily oil output was expected to reach 250,000 barrels daily. The May order allows 141,975 barrels daily production in southern Louisiana and 70,750 barrels daily in northern Louisiana, the latter figure including 50,750 barrels daily, or 350 barrels daily per well, in the Rodessa field. There were 145 producing oil wells at Rodessa on May 1, including 28 completed during April. These figures do not include several wells on the Texas side of the field, similarly held to 350 barrels daily by the Texas Railroad Commission.

Other States Guided by Estimates

While Louisiana makes no pretense of seeking to make crude production conform with the Bureau of Mines pattern, some of the other leading producing states obviously want to give the impression they are taking the bureau suggestions seriously. The Kansas Corporation Commission originally drew up a tentative proration order authorizing an increase of the state's output to 155,000 barrels daily in May, having felt the pressure of a steadily rising potential in the western half of the state. But the commission finally held the official allowable down to 150,100 barrels daily, complying with the Bureau of Mines recommendation.

The Oklahoma Corporation Commission has explained that its May order so allocates field quotas that overproduction will not occur and so that the state will be within the federal allocation of 538,300 barrels daily for the month as a whole.

The chairman of the Texas Railroad Commission similarly has asserted that during May as a whole the Texas output likely will conform closely with the Bureau of Mines allocation. However, the commission's May order fixed the Texas allowable at 1,165,955 barrels daily, while the bureau estimated Texas demand at 1,132,500 barrels daily.

New Mexico's proration department has given assurance that production in that state during May will be within the federal allocation of 65,900 barrels daily. However, New Mexico consistently has stuck close to the federal estimates.

Compact Aiding Curtailment

An influence tending to hold some of the leading producing states close to the Bureau of Mines allocations is the Interstate Compact. Oklahoma, Kansas, Texas, and New Mexico are among the members of the compact. Those states are the ones that are taking the bureau figures most seriously. Louisiana has not seen fit to enter the compact, and it is the state that most seriously exceeds the bureau allocations.

It is but natural that this situation endangers the Interstate Compact itself and the advantages being gained through the compact. Already there are rumblings of discontent over the failure of the compact to encompass the whole industry, and its failure to give full protection to the members, in return for their efforts.

Doubts Arise on Compact Renewal

Lon A. Smith, member and former chairman of the Texas Railroad Commission, recently spoke the sentiments that probably are held by many oil producers within the states participating in the compact. The compact will expire September 1, 1937, and Smith asserted he would strongly oppose Texas participation in a new compact unless other states guarantee "religious observance" of its provisions. "If all states would rigidly observe the compact," he said, "it would be all right and useful, but the way it is operating now it is hurtful to Texas." He declared that Louisiana is getting more than its equitable share of the existing market demand, by disregarding federal allocations. He claimed further that Oklahoma has held an advantage over Texas, not only through exceeding federal allocations but also through the fixing of the federal quotas, considering the area, reserves, and number of fields in the two states. Smith added that "The oil compact has served its main purpose, which was to sidetrack federal control, and the states seem to be letting up on it now." He warned, moreover, that "Federal control is being agitated anew, and unless the states watch their step it will come to the front again." He also made the significant assertion that if other states do not curtail their production, then the Texas commission should increase that state's allowable.

Chiefs Say Crude Prices High Enough

Recent statements of two major company executives tend to confirm the idea that crude oil prices are not likely to advance further in the near future. E. G. Seubert, president of Standard Oil Company (Indiana) averred that "an advance in crude would be premature at this time." T. Rieber, chairman of The Texas Corporation, told stockholders that present crude oil prices are high enough, and expressed the opinion there will not be an increase for some time, although advances may be made later in the year.

Largest Exposition

EVERY CLASS OF EQUIPMENT IS ON DISPLAY AT TULSA SHOW

EQUIPMENT displayed at the International Petroleum Exposition in Tulsa, May 16 to 23, represents the ultimate in design of hundreds of manufacturers who have helped to place the production of oil on a scientific basis. Exhibitors from all over the world are displaying their products, and it is possible to see and inspect at one central point the equipment that has lifted the petroleum industry to a high position in a comparatively short time. The displays are so varied and complete that it is possible to follow every phase of development from the preliminary examination of leases to the delivery of oil to the consumer.

Drilling and production equipment, transportation and power units of every type, drilling and production specialties, control equipment, various drives, tanks, special pumps, cable tools, coring outfits, geophysical displays, oil well surveying instruments, special derricks, safety equipment, maintenance equipment, special bearings, pipe line equipment, portable drilling and production units, and many other equipment items are prominently exhibited.

Boilers with a working pressure of 350 pounds and equipped with latest super-heating equipment reflect the progress made in prime movers during the past 10 years. During the early development days a stem pressure of 125 pounds was considered adequate. Large twin steam engines that are several times as powerful as the old "single barrel" engine of 1910 are displayed in connection with rotary drilling equipment. Interesting steam conservation specialties show the first definite steps made toward saving heat that formerly was lost.

Steel derricks of unusual strength, improved crown blocks, traveling equipment that carries several times as heavy a load as the equipment of 20 years ago, improved drilling and casing lines, and derrick foundations are featured.

Mud pumps and accessories that make the pumps of 1915 look like toys show the importance of circulation in rotary drilling. Improved pump parts that have more than doubled the service obtained also are shown. High-pressure rotary hose, vibrating mud screens and mud salvaging equipment reflect the attention given to this phase of drilling operations.

Heavy unit type draw works are on display. Small steam engines for driving the rotary table while the main engine is idle, or for furnishing other types of auxiliary power, may be seen. Improved drilling chains for all power combinations are exhibited.

Advances in the manufacture of tubular goods are reflected by the complete displays of drill pipe, casing and tubing. Several new types of pipe have been developed for use under difficult conditions.

A combination rotary and cable tool drilling outfit is on display. With this outfit it is possible to drill to nominal depths with either cable or rotary tools. Portable rotary and cable tool drilling outfits that are a distinct improvement over the older models may be seen.

Light coring outfits for shallow drilling and preliminary work represent an interesting part of the display. Some of these outfits have a variety of uses and in a number of shallow districts it is possible to determine the structural condition before moving in heavier equipment.

Diesel engines of several types are shown, and the reduction in weight per horsepower is remarkable. The adaptation of these engines to a variety of power requirements is shown by several hook-ups on display.

Production equipment on display represents the developments of the past few years, and a number of radically new designs may be seen. Greater efficiency, lower operating costs, and a wider range of application are claimed for pumping equipment that is being used to pump wells from more than 7000 feet.

A full display of cable tools will be featured and the advantages of drilling with cable tools under certain conditions will be stressed.

Unusual fishing tools are exhibited by several manufacturers, and a number of sidetracking specialties also are on display. Special bailers, wall hooks and friction sockets add to the assortment.

Instruments for use in connection with directional drilling will be featured. Oil well surveying tools and instruments will be shown and the principles explained.

Pumping units, compressors, separators, tanks of every description, and flow devices are on display. The greatest variety of pumping units ever displayed may be seen. The wide application of power combinations to pumping equipment has increased the number of designs.

Electrical equipment is prominently displayed, the use of electricity for drilling and production practices being shown to advantage by a number of manufacturers. Electric motors that are affected little by heat are featured.

A mud testing apparatus that roughly duplicates bottom-hole conditions may be seen in action. Other mud conditioning equipment may be seen in action.

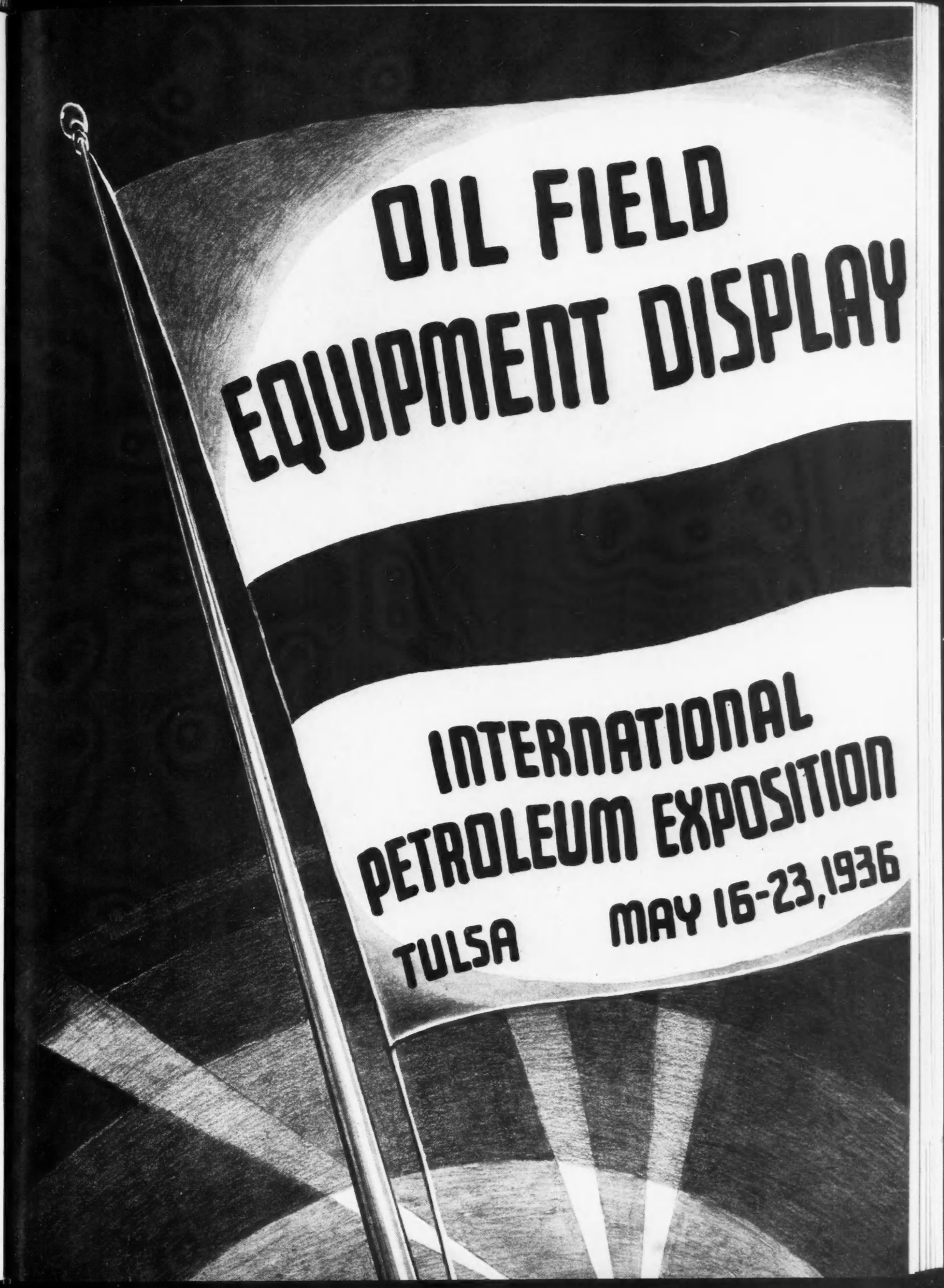
Valves and connections that operate at record pressures are shown as they are used in the field. Drilling heads, blowout preventers and pressure drilling equipment are prominently displayed.

Equipment for handling natural gas in the field is displayed so that the prospective user may know of its advantages.

Pipe line equipment of every kind may be found on display. Large and small pumps with various types of prime movers, line pipe of different grades, and special connections are shown.

Dozens of pieces of equipment that were designed to raise the operating efficiency of all phases of drilling and production practice are on display.

THE OIL WEEKLY presents on the following pages a detailed description of almost every piece of equipment displayed at the exposition. This section is presented for the benefit of persons unable to attend the exposition, and as a guide for those in attendance.

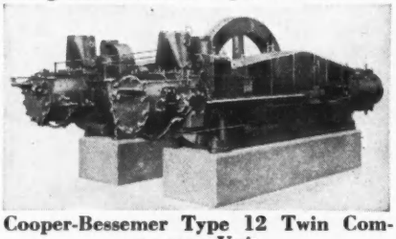

OIL FIELD
EQUIPMENT DISPLAY
INTERNATIONAL
PETROLEUM EXPOSITION
TULSA
MAY 16-23, 1936

FIELD EQUIPMENT Featured at International Petroleum Exposition

The Cooper-Bessemer Corporation

▪ *Compressors*

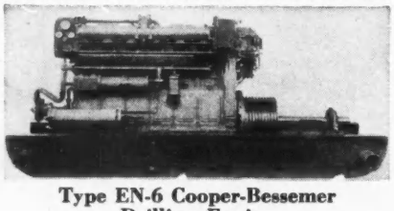
The Cooper-Bessemer Corporation, Mt. Vernon, Ohio, is showing the new Type 12- twin compressor unit, rate 230 horsepower at 200 r.p.m. The unit is said to be more accessible than previous two-cycle types. All bearings can be adjusted in less than 30 minutes. All wearing parts are automatically and positively lubricated. A new duplex air scavenging valve principle is said to give more uniform operation and greater overload capacities.



Cooper-Bessemer Type 12 Twin Compressor Unit

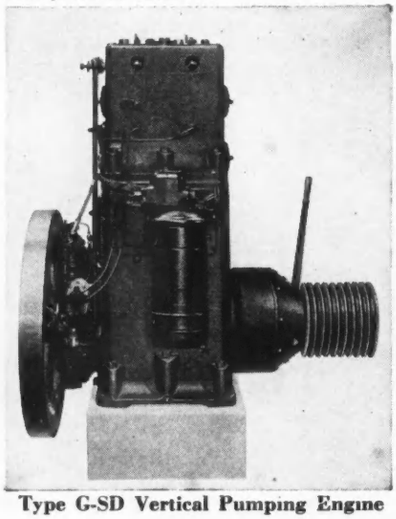
▪ *Drilling Engine*

Also displayed is the Type EN-6 Diesel, mounted on a structural-steel base and equipped with Texrope drive for rotary drilling. Rating is 270 horsepower peak at 700 revolutions per minute. Seven features are listed: (1) Diesel sturdiness built into



Type EN-6 Cooper-Bessemer Drilling Engine

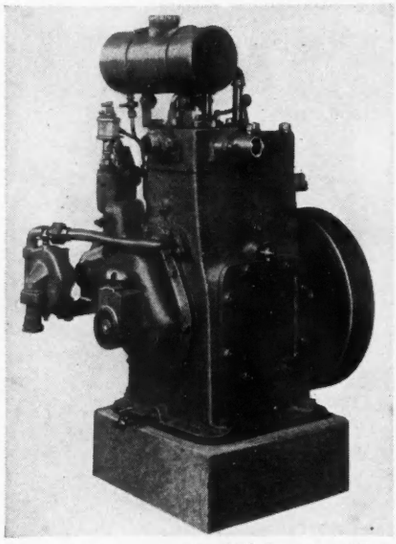
every piece and part; (2) thru-bolt construction carries all heavy stresses; (3) cylinder liners firmly bolted to cylinder heads; (4) heavy-duty crankshaft, connecting rods, bearings; (5) complete pressure lubrication to wearing parts; (6) patented wrist-pin construction, for longer life; (7) patented atmospheric-relief constant-pressure injection.



Type G-SD Vertical Pumping Engine

▪ *Starting Unit*

A 4-cycle gas- or gasoline-driven compressor, for air-starting of larger gas and Diesel engines, is also being displayed. Known as Type GX-3A, it is rated 6



Cooper-Bessemer GX 3A Starting Unit

horsepower. The unit is said to be capable of filling a tank of 6 cubic feet capacity up to 200 pounds pressure in five minutes, or up to 250 pounds in 9 minutes.

▪ *Pumping Engine*

Prominent in the Cooper-Bessemer exhibit is a new, compact, light vertical pumping engine, Type G-SD, rated 40 horsepower at 400 revolutions per minute and operated on natural gas. The engine is designed with counterbalanced crankshaft, heavy-duty roller bearings, and modern-type crossheads. Standard equipment includes air filter, water pump, lube-oil pump and filter. Either a constant-speed or variable-speed governor can be furnished. Optional is the equipment for driving a radiator fan, or for automatic air-starting. The engine is convertible to a Diesel.

The Four Wheel Drive Auto Company

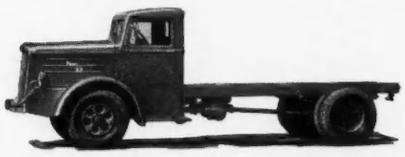
▪ *FWD Trucks*

The Four Wheel Drive Auto Company, Clintonville, Wisconsin, is exhibiting two FWD (four-wheel-drive) trucks for oil field service. The units are constructed for the mounting of winches, derricks and special equipment for oil field service and to meet hauling requirements of oil field contractors.

One of the units is an FWD-Oil Well Special of 17,000 pounds gross capacity. Wheelbase is 160 inches, gear ratio, 7.3:1, overload springs front and rear, cab to rear of frame 150 inches, engine of 85 brake horsepower.

The other is an FWD chassis of 13,000 pounds gross capacity, wheelbase 156 inches, gear ratio 6.86:1, overload springs rear, cab to rear of frame 144 inches, engine 84 brake horsepower.

Both units are equipped with dual tires



FWD Truck for Oil Field

in rear and booster operated four-wheel hydraulic brakes.

The above features plus the special FWD features of the setback front axle and four driving wheels for transporting heavy loads and performing the tough jobs met in oil field service are stressed at the booth.

Hewitt Rubber Corporation

▪ *Rubber Products*

Hewitt Rubber Corporation, Buffalo, N. Y., is exhibiting with Jarecki Manufacturing Company, its Mid-Continent distributor. The Hewitt line consists of all kinds of mechanical rubber goods. The display demonstrates the difference in construction of straight-edge and folded edge belts, the various ply thickness and widths available, as well as samples of rubber hose and packings used in the oil industry, with notations showing where and how each type is used.

J. D. Adams Company

J. D. Adams Company, Indianapolis, Indiana, is displaying engine driven arc welders and vertical D.C. arc welders.

▪ *Engine Driven Welders*

The Adams engine driven arc welders have remote start and stop engine control, said control being a switch being located on the electrode holder. Generators used on the vertical engine driven welders are furnished in two sizes: 200 and 300 ampere, 40 volt rating. Excitation is provided by auxiliary brushes on the main commutator. By increasing the internal reactance of the machine the commutating winding is used for stabilization also. Wide welding range, according to the manufacturer, permits utilization of this piece of equipment on thin gauge metal to heavy plate or structural sections with all types of electrodes. Instrument panel and current control are placed at the rear of the machine, enabling the operator to make adjustments conveniently.

▪ *Vertical D.C. Arc-Welders*

A vertical, direct current arc-welder is also displayed in the Adams Company's booth. Mechanical features of this welder include: gyroscopic stabilization of dynamically balanced rotating parts; clean air is taken in at top and exhausted through bottom louvres, reducing the chances of picking up abrasive dirt or metallic particles; low center of gravity; roller bearing wheels facilitate moving machine over uneven floors; machine is enclosed in a welded steel case which is drip proof; heavy duty polarity reversing plug and receptacle provide quick method of reversing polarity and guard against accidental reversal while welding. Capacities: up to 400 amperes.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Link-Belt Company

Link-Belt Company, Chicago, exhibits at the show a number of types of rotary chains, speed reducers, variable speed transmissions, flexible couplings, anti-friction pillow blocks, mud screens, and other equipment for the producing branch of the industry.

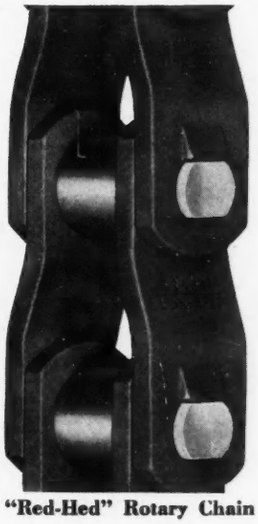
▪ *Rotary Drilling Chains*

Link-Belt shows a number of sections of "Hyper" chains at its booth. These are displayed in three styles: SS-40 API-3, ultimate strength, 75,000 pounds; SS-124 two bar API-4, ultimate strength, 130,000 pounds; and SS-124 three bar API-4, ultimate strength, 170,000 pounds. The two and three bar "Hyper" chains shown have side bars of drop forged alloy steel, normalized and heat treated, with metal distributed to secure maximum strength with minimum weight.

Three Bar "Hyper" Chain

The "Red-Hed" rotary chains on display are available in two styles: SS-40 (API-3), ultimate strength 40,000 pounds, and SS-124 (API-4), ultimate strength 112,000 pounds.

For drilling jobs where the earth's formation is not very hard and for jobs requiring shallow holes, Link-Belt displays additional rotary chains, ranging in strength from 28,000 to 60,000 pounds.



"Red-Hed" Rotary Chain

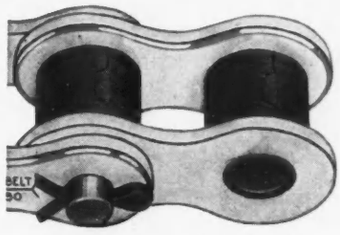
▪ *High-Speed Chain*

For the higher speed power drive, as from motor to first countershaft, there is shown at the booth the "Silverstreak" silent chain drive. The manufacturer claims flexibility, durability and low cost for the chain drive. It is made in sizes to take care of power requirements up to 1000 horsepower and over.

"Silverstreak" Chain Drive

▪ *Roller Chain*

Link-Belt also shows a "Silverlink" finished steel roller chain for moderately high speed power transmission on both light and heavy oil field equipment, including motor trucks. It is shown in pitches of ⅜-inch to 2½ inches, in single and multiple widths.



"Silverlink" Roller Chain

▪ *Speed Reducers*

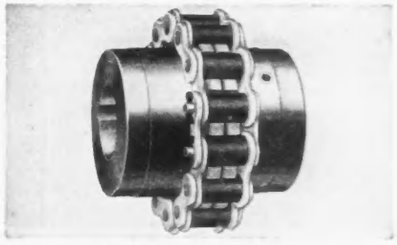
Another interesting part of this manufacturer's exhibit is that devoted to speed reducers. These are self-contained, automatically lubricated and equipped with anti-friction bearings. They are available in three types: motorized helical gear type, herringbone gear type (not motorized), and worm gear type (not motorized).

In the motorized reducer, the shaft extends through the reducer and, as the motor frame is secured to the side of the reducer housing, no motor base plate or motor shaft coupling is needed. The herringbone gear reducer is designed for making large speed reductions in limited space.

▪ *Variable Speed Transmissions*

Link-Belt Company's P.I.V. gear is shown in horizontal mounting motorized form. The unit is of all metal construction, with working parts automatically lubricated. The design has made provision to practically eliminate fluctuations and loss of power, as the power is transmitted from the input to the output shaft through a positive chain drive of special design.

▪ *Flexible Couplings*

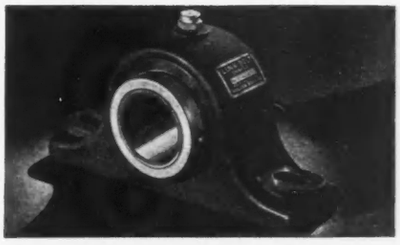


Flexible Coupling

Several types of flexible couplings for connecting shafts in line are shown at the booth. The coupling featured in this part of the exhibit consists merely of two cut tooth sprocket wheels connected with a piece of finished steel roller chain. It is furnished without an oil retaining casing.

▪ *Anti-Friction Pillow Blocks*

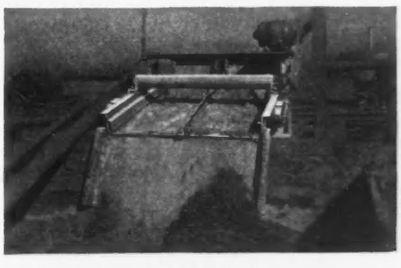
Anti-friction bearing units are shown also. These are displayed in many sizes and types of mountings. They are calculated to reduce power consumption and result in longer life of bearings.



Anti-Friction Bearing

▪ *Mud Screens*

Link-Belt shows a vibrating screen for cleaning rotary mud. The screen is of fine mesh to reject large and heavy cuttings as well as sand and shale. The manufacturers claim it will reduce the hazards of gas blowouts, make a smoother well, save drilling time by reducing the possibility of the drill pipe's sticking, lengthen the life of pump parts, swivels, rotary hose, standpipes, bits and reamers.



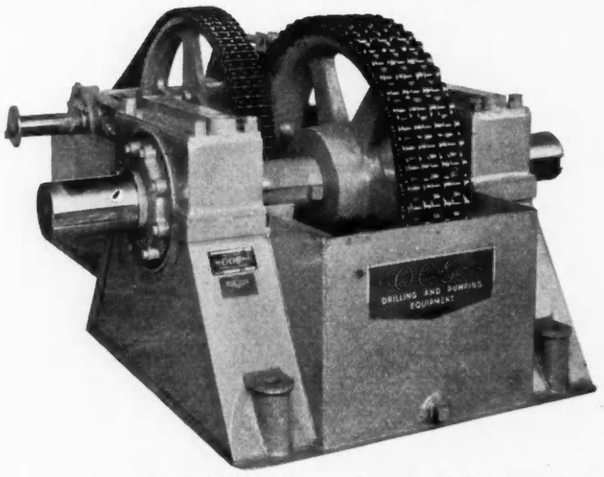
Link Belt Mud Screen

FIELD EQUIPMENT Featured at International Petroleum Exposition

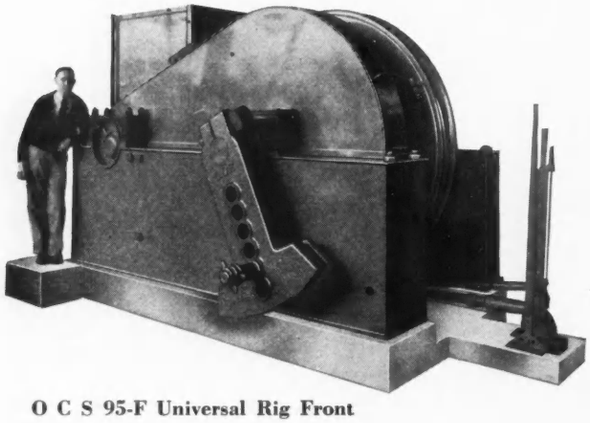
The O. C. S. Manufacturing Company

▪ *Pumping Unit*

The O. C. S. Manufacturing Company, Coffeyville, Kansas, is introducing at the Ninth International Petroleum Exposition and Congress at Tulsa, a new addition to its line of double reduction pumping units, namely, the O C S Goslin, 10-horsepower pumping unit. This portable pumping unit utilizes roller chains and roller bearings in a totally enclosed self-oiling transmission. It is available with electric motors or multi-cylinder engines and has a capacity of 10 horsepower at 20 strokes per minute, with a load capacity of 10,000 pounds. The twin cranks, as illustrated above, are provided with weights to balance loads equal to the capacity of the machine. Approximate weight 9000 pounds.



O C S 40-horsepower Double Reduction Unit



O C S 95-F Universal Rig Front

▪ *Rig Fronts*

The O C S Tyle 95 Universal rig front is a pumping machine with the operating characteristics of a standard rig, providing drive for bullwheel, calfwheel, hoist, or chain driven sand reel, and accommodating centrifugal balances for efficiently handling heavy pumping wells. These features make this machine most adaptable for permanent equipment where individual servicing is economical. A friction reverse for use with gas engine provides the unit with flexibility. This machine is equipped with roller bearings and roller chain.

▪ *Sand Reel*

The O C S twin brake sand reel, which is made in two sizes, the "Greyhound" and the "Pup," is a further development of the O. C. S. chain driven sand reel with fast and flexible operating characteristics. It has more than double the braking capacity and is provided with greater spooling capacity. The twin brakes have removable cast drums, bolted to each end of the spool, and an equalized control tightens the band. A safety lever is provided and the O C S air-cooled disc clutch on the "Greyhound" reel has a capacity of 100 horsepower per 100 revolutions per minute. These sand reels are equipped with Timken bearings throughout.

▪ *Reduction Unit*

The O C S double reduction speed reducers on display are designed particularly for oil well application and will provide proper well speed when 500 to 1800 revolutions per minute prime movers are used with the proper primary drive. These mechanical speed reducers incorporate Diamond roller chain and Timken bearings and are enclosed in an electrically welded steel base. The primary and intermediate shafts are adjustable to maintain smooth chain operation and efficiency. The slow speed shaft is arranged so that single or twin cranks may be applied, while the primary shaft is extended on each side for either a right or left hand drive and the opposite end used for a spacing brake, if desired. These units are adaptable as central pumping powers for operating pendulum swings or push and pull powers. Lubrication and rolling contact of roller chain and roller bearings make this a most efficient, simple and rugged machine.

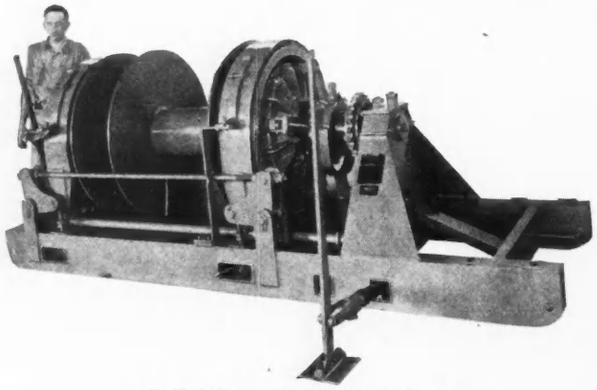
U. S. Steel Corporation

▪ *Steel Products*

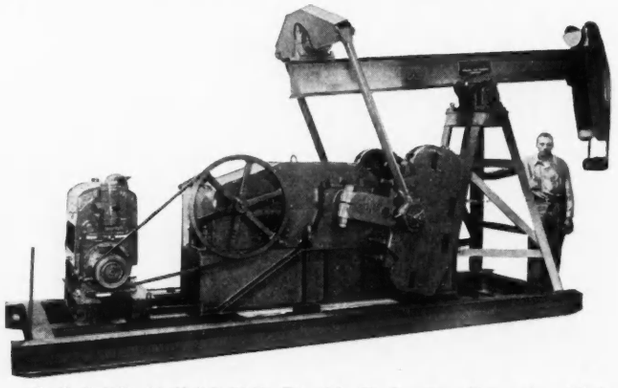
U. S. Steel Corporation, Pittsburgh, through its subsidiaries will present a complete and up-to-the-minute display of the latest developments in steel and steel products as applied to use in the oil field.

Tubular products, wire products, steel sheet piling, and other oil field materials and goods will be shown.

In addition a moving history of the development of the oil industry through the use of steel will be on display.



O C S Twin Brake Sand Reel



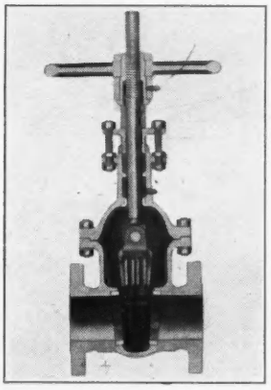
O C S "Goslin" 10 H.P. Double Reduction Pumping Unit

FIELD EQUIPMENT Featured at International Petroleum Exposition

Darling Valve Company

▪ *Valves*

Darling Valve and Manufacturing Company, Williamsport, Pennsylvania, is showing a line of cast steel taper seat gate valves of an improved design for high temperature and refinery service. One of these valves is equipped with a motor and an electric unit for remote control.



Darling Cast Steel Gate Valve

Also included in the display are forged steel double disc gate valves for drilling through and flow line service, semi-steel double disc gate valves and check valves for cross country pipe lines and gathering lines, and a quality line of all bronze gate valves. Several of the valves are cut away to show the internal construction and action of the parts as the valves are operated.

A fire hydrant for use in high pressure fire service lines at refineries and industrial plants is also shown.

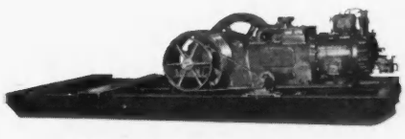
There is an interesting display of valve cups and composition valve cups and balls and seats.

Joseph Reid Gas Engine Company

Joseph Reid Gas Engine Company of Oil City, Pennsylvania, has on display, in the Frick-Reid Supply Corporation Building, complete Diesel and gas engine units for drilling and pumping service, and a bandwheel pumping power.

▪ *Twin Drilling Engine*

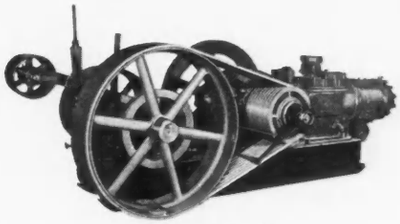
The Reid twin drilling engine on display is Type DC 12½ x 16-inch, two-cycle twin-cylinder full Diesel engine, unitized with a new improved reverse clutch rig, mounted on a steel underframe. The arrangement permits the use of V-belt or chain drive from the engine to reverse rig. The engines can be furnished for either gas or oil fuel, and are convertible from one fuel to the other. The reverse clutch rig, with 5-inch shaft mounted on Timken bearing pillow blocks, has 36-inch diameter band type clutch with 6-inch wide band, and 30-inch diameter brake wheel. A large sprocket is mounted on the shaft for chain drive to the drilling unit.



Reid Twin-Drilling Engine

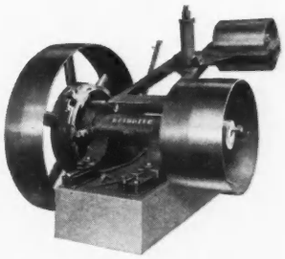
▪ *Reidrive Unit*

The Reidrive unit on display is a combination of 14-inch stroke Reid single-cylinder engine with power take-off, V-belt drive to Reidrive countershaft, which includes a belt tightener for adjusting belt from countershaft to bandwheel, all mounted on a single steel underframe. This compact unit eleminates handling and setting of individual units, requires less floor space, and saves foundation setting above floor line. The engine can be furnished for either gas or oil fuel, and is convertible from one fuel to the other.



Reidrive Unit

The Reidrive countershaft, similar in design to the A.P.I. countershaft in that it permits use of overhung pulleys, has a

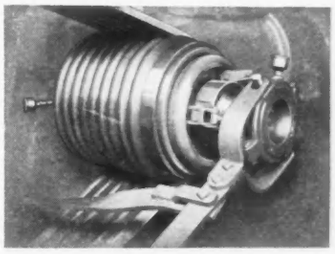


Reidrive Countershaft

holding brake for the input pulley and a belt idler for the take-off pulley. Timken roller bearings are used on both the main shaft and the idler pulley shaft. The countershaft base is adjustable on slide rails. Provision is made also for engine clutch control. The design permits a wide range of pulley sizes to give desired speed ratios. The Reidrive may be used with any type of prime movers.

▪ *Reid Take-Off*

Also included in the display is a Reid Type DCM 10¼ x 12-inch single-cylinder gas engine with power take-off driving a reduction gear unit through V-belt drive. The power take-off is a modern development, meeting the demands for a simplified transmission. The design allows the use of an overhung pulley on the crankshaft arm, thereby eliminating the need for an outerbearing, and lowering the cost of installation by savings in floor space and materials. The construction is such that the crank arm is relieved of bending or side strains. A quill bracket, bolted to engine bed, slides over the extended crank arm. Timken bearings, mounted on the quill bracket, support the drive pulley, which may be for either flat belt or V-belt drive. The drive pulley is so arranged to hold a cone clutch of unique construction. The entire design is simple and readily accessible for adjustments.



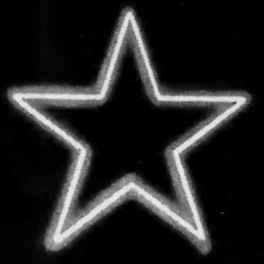
Reid Take-Off

▪ *Reid Pumping Power*

The pumping power on display is the Reid Type PX, which may be furnished with 24-foot, 32-foot or 36-foot diameter bandwheels, and is equipped with Timken roller bearings. The power shaft is steel, 6 inches in diameter, to which is shrunk a cast-iron base of ample proportions. The eccentrics and wheel hub fit on a heavy sleeve, which extends from the power base up through the wheel hub. This makes a very rigid construction and requires only two bearings. Two 30 or 36-inch throw eccentrics are furnished. The power is furnished with a dust-tight mechanical oiling system in which is incorporated an oil Purlator.

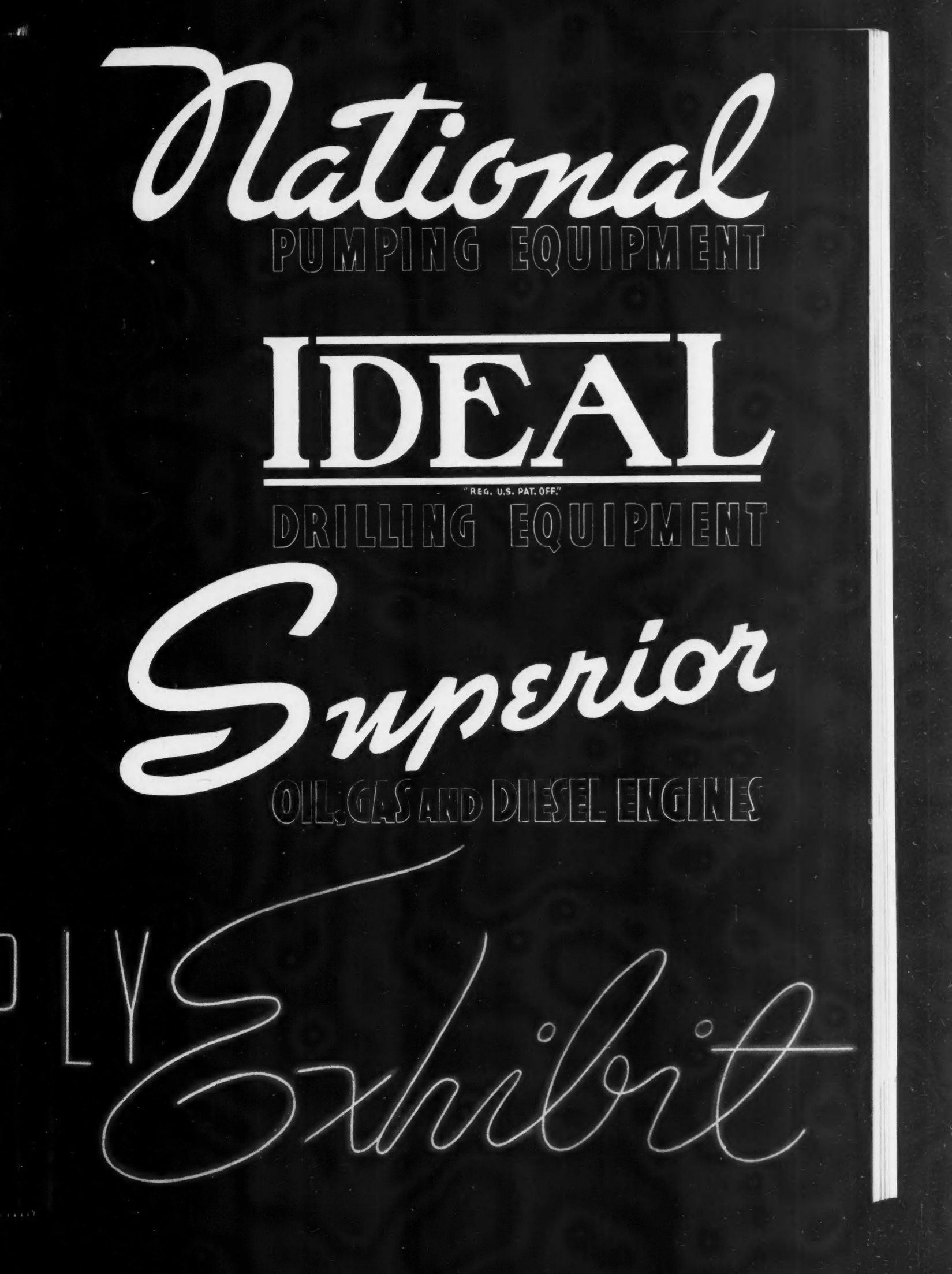
Reid Pumping Power

A TRADE MARK AND TRADE NAMES THAT SYMBOLIZE THE STANDARD OF QUALITY IN OIL FIELD EQUIPMENT



THE

NATIONAL SUPP


National
PUMPING EQUIPMENT
IDEAL
"REG. U.S. PAT. OFF."
DRILLING EQUIPMENT
Superior
OIL, GAS AND DIESEL ENGINES
LY
Exhibit

FIELD EQUIPMENT Featured at International Petroleum Exposition

Halliburton Oil Well Cementing Company

Halliburton Oil Well Cementing Company, Duncan, Oklahoma, has on display at the oil show a complete line of cementing equipment as well as a number of other products, but is prominently featuring cement equipment, formation testers, measuring devices, floating equipment, multiple stage cementing, full hole cementing and Four Wheel Drive trucks.

▪ *Full Hole Cementer*

When this device is in "closed" position a sleeve covers the cement outlets, the sleeve being held in place by shear pins. Drilling fluid is circulated down through the device to thoroughly wash the space outside the screen. Then a regular two-plug cementing job is done. When cementing, the sleeve is forced downward by the bottom plug, uncovering the cement outlets and allowing the cement to pass through the outlets up into the annular space behind the casing. If an operator desires to use a canvas "shirt tail" packer, it may be attached to the liner just below the full hole cementer. The device permits the installation of the same size screen area, thereby obtaining larger drainage surface.

▪ *Howco Lining*

Howco cement lining for screens or perforated liners allows thorough washing of cavings, cuttings and heavy muck from behind screens or perforated liners. It requires no fishing as the material is easily drilled and circulated out of the casing by the tubing or drill stem at the same time the cementing plugs are drilled.

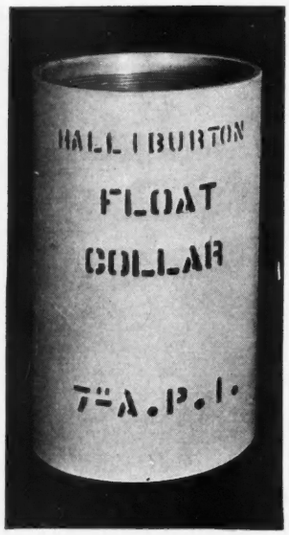
▪ *Howco Co-Axial Spiral*

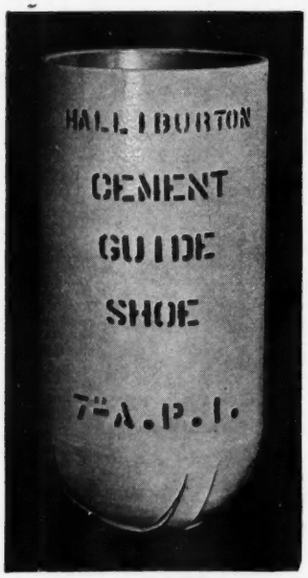
Howco Co-Axial Spiral on display offers an extra degree of protection when completing oil wells. It prevents, according to the manufacturer, channeling outside of casing and protects against blowouts.

Howco Co-Axial Spiral

It consists of a triangular rubber molding vulcanized to a metal base. The rubber is attached to the metal by a process similar to that employed by automobile manufacturers in vulcanizing rubber connecting pads used in floating power installations between the frame and motor. The spiral comes in seven-foot sections and is preformed in various sizes to fit over the outside of the casing. It is solid in sets of four seven-foot sections.

Howco Co-Axial Spiral is installed by simply slipping it over the thread end of a joint of casing and attaching it to the casing by arc welding at short intervals. Usually, two sections of spiral may be placed on the bottom joint of casing and the other two may be placed at a suitable point up in the string where it may be desirable to have assurance that the casing is not in direct contact with the wall of the hole.



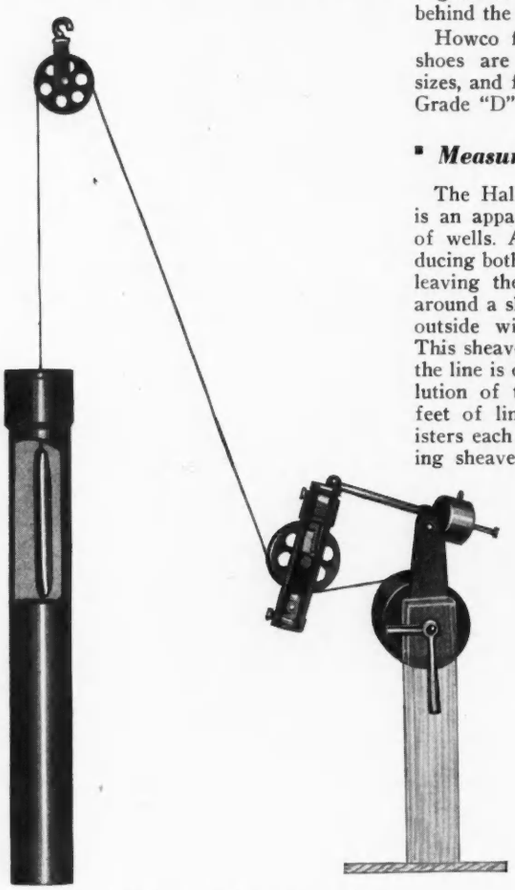


▪ *Float Collars and Guide Shoes*

These Howco products have four-way grooves, which lead into the main opening of the float valve or guide, providing emergency passages for the circulating fluid or cement. The guide will not interfere with coring through or immediately below the shoe.

By spacing the float collar one joint above the guide shoe in a string of casing, additional assurance is obtained that a good body of cement will be pumped behind the shoe.

Howco float collars and cement guide shoes are available in standard casing sizes, and furnished with long threads for Grade "D" casing.



Halliburton Measuring Device

▪ *Measuring Device*

The Halliburton well measuring device is an apparatus for measuring the depth of wells. A round steel line is used, reducing both the weight and the cost. After leaving the reel the line passes entirely around a sheave that is coated around the outside with an extremely hard metal. This sheave is of such diameter that when the line is drawn taut around it each revolution of the sheave passes exactly two feet of line. An automatic counter registers each half revolution of the measuring sheave, that is, counts each foot of line as it passes. The measuring member has two retaining wheels that are adjustable to maintain a slight pressure on the line and prevent any possibility of its slipping on the sheave. By releasing the retainer wheels the line may be removed from the measuring member. The device may be operated by hand or by power.

The stuffing box assembly is a device that screws onto the top of the swedge nipple or casing head. It consists of a grooved sheave over which the measuring line passes, various fittings and a stuffing box through

which the line can enter the casing without the well fluid coming out.

▪ *Formation Testers*

The Halliburton formation tester is a method for testing the productivity of a formation encountered in a well containing drilling fluid. It involves the insertion of a single string of pipe into the well to make a test, which includes lowering a test string into the well through the drilling fluid with a packer carried by the string and a valve inlet at the lower end of the string closed against the entrance of fluid from the well, setting the packer above the formation, and opening the valve to permit cognate fluid from the formation to enter the inlet, closing the valve to prevent the subsequent entrance of fluid from the well through the inlet and releasing the packer, and raising the test string with the inlet closed against the entrance of fluid from the well to remove an entrapped sample.

▪ *Multiple Stage Cementing Device*

This device allows greater facility and success in placing large amounts of cement behind strings of casing. It eliminates the necessity of pumping all the cement down the entire length of pipe and then a considerable distance upward behind the casing. This advantage is particularly desirable when a string of casing is to be cemented from top to bottom. The method is also useful where it is desired to protect a shallow productive formation located behind the casing. Thus, a cementing job may be done around the shoe to obtain the usual water shut off and another job may be done on the same string of casing at a shallower level to provide protection to a productive formation. By this means cement is placed above, below and at the shallower producing formation.

Halliburton Oil Well Cementing Company also is showing FWD trucks, which it distributes. The FWD truck drives through both front and rear wheels. The device that provides the power is the FWD center differential.

Spang, Chalfant & Company, Incorporated

▪ *Pipe*

Spang, Chalfant & Company, Incorporated, Tulsa, Oklahoma, has on display at the show a table exhibit of A. P. I. casing, drill pipe, and tubing, with cut-open sections showing thread form and engagements with couplings and tool joints.

▪ *Casing Joint*

Included in the display is an exhibit of the manufacturer's new high strength, small diameter casing joint known as "Extreme Line." Samples and sections displayed at the booth illustrate the thread form, fluid seal, method of gauging, ease of running, and other characteristics of this joint.

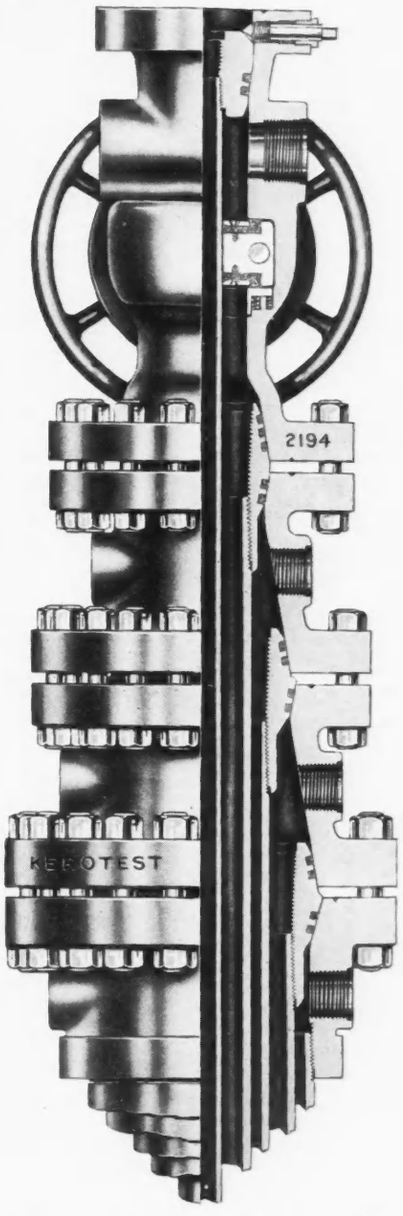
Also shown is a section of drilling casing designed to be rotated like drill pipe for drilling through heaving shale.

Kerotest Manufacturing Company

▪ *Casing Head Assemblies*

Kerotest Manufacturing Company, Pittsburgh, Pa., in conjuntcion with Gray Tool Company, Houston, is showing for the first time complete casing head assemblies designed for working pressures up to 3000 pounds per square inch. These are set up to show the simplicity of operation, saving in cellar space and safety features.

These assemblies are installed and used from the time of setting the first casing string until the test is completed.



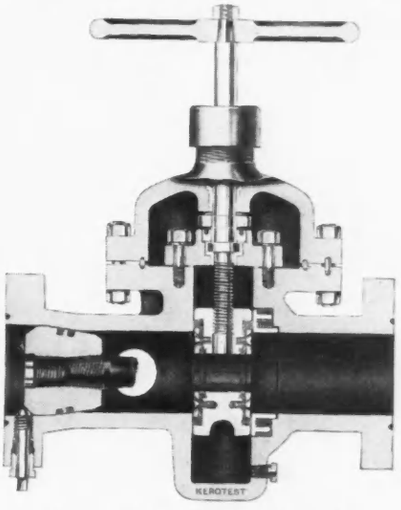
Kerotest-Gray Casing Head Assembly

By means of the master control a well may be flowed through either the casing or tubing.

Another type of a similar casing assembly is being shown. It is equipped with a Gray-Kerotest tubing head that permits attachment of a Kerotest valve above the head for safe control while landing tubing and washing the well.

▪ *Gray-Kerotest Master Control*

These controls are designed to close around the tubing and permit flowing through tubing or casing, or both. The casing outlets are located above the rams, insuring perfect control. Gray-Kerotest master controls are made in different designs that permit adaptation to particular conditions.



Gray-Kerotest Master Control

▪ *Complete Christmas Trees*

Complete Christmas Tree assemblies are being shown. Each forging, fitting, nipple, bull plug or choke is manufactured in the Kerotest Manufacturing Company plant especially for its particular duty.

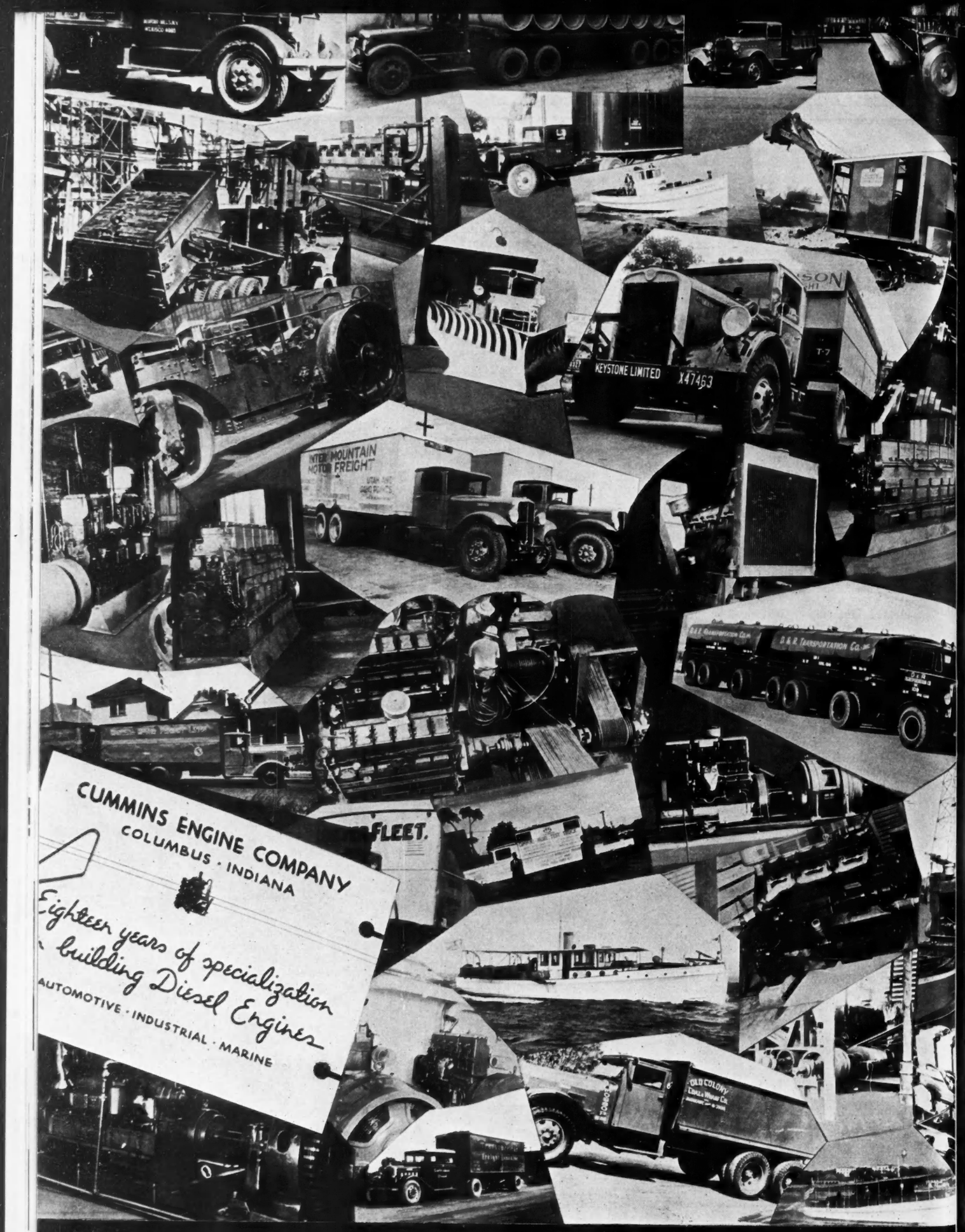
▪ *Other Products*

Kerotest Manufacturing Company also is displaying gate valves for drilling and flow line service, high-pressure cast steel throttle valves for precision operation of drilling engines and oil field mud pumps, heat-treated drop-forged steel fittings, flange unions, control chokes, brass valves and fittings, and many other items.

The Burt Corporation

▪ *Swab*

The Burt Corporation, Tulsa, Oklahoma, is exhibiting the Burt swab. This equipment is designed to meet existing field conditions of today. It is of forged steel body exclusively. The swab rubber is compounded expressly for swabs. It is oil and abrasion resisting. The swab is simple and automatic in its operation.


KEYSTONE LIMITED X47463
INTER MOUNTAIN MOTOR FREIGHT
B & R TRANSPORTATION CO.
CUMMINS ENGINE COMPANY
COLUMBUS · INDIANA
Eighteen years of specialization building Diesel Engines
AUTOMOTIVE · INDUSTRIAL · MARINE

MID-CONTINENT SUPPLY COMPANY

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MID-CONTINENT BUILDING, FORT WORTH, TEXAS

FIELD EQUIPMENT Featured at International Petroleum Exposition

Ralph N. Brodie Company

▪ ***Meters***

Ralph N. Brodie Company, Oakland, California, is showing a complete exhibit of Brodie meters. Metering has received increasing attention by oil companies during recent years because of the great savings of time and stock effected. The Brodie line of positive

Brodie Meter

displacement meters includes all sizes up to 1000 gallons per minute. the Big 6-inch meters are adapted to barge, tanker and refinery service. Brodie's Quantrol is also included in the exhibit.

Johns-Manville Corporation

▪ ***Insulation***

Johns-Manville Corporation, New York, is displaying its line of J-M asbestos pipe line felts; high and low temperature insulation materials; packings, industrial friction materials and Transite asbestos-cement pipe.

J-M asbestos pipe line felt is made of graded asbestos fibre felted into dry sheets which are then saturated with a selected coke oven tar or water-resisting asphaltic compound. It is applied with a rotary type wrapping machine also supplied by Johns-Manville as protection for metal pipe lines against the destructive action of corrosive soil.

Superex high temperature insulation, in blocks and in pipe covering form, is being shown along with J-M Sil-O-Cel C-22 brick, asbestos-sponge felted pipe covering and 85% magnesia blocks and pipe covering. Of particular interest in the display of low temperature insulations is Rock Cork pipe covering, a new form of Rock Cork introduced by Johns-Manville during the last year. Rock Cork, in sheet form, has been in wide use for many years as low temperature insulation.

A display of the complete Johns-Manville line of rod and sheet packings includes J-M Interlocked braided asbestos packing, a recent development of the J-M Research Laboratories embodying a new type of construction in which each individual strand of long fibre asbestos yarn is so interlocked in the braiding as to form an integral structure with no soft, heavy plaits to flatten and no jackets to wear through.

Transite pipe is an asbestos cement product, used principally by the oil industry for carrying off salt water from oil wells.

J-M Asbestos Pipe Line Felt

Armstrong Machine Works

▪ ***Steam Traps***

Armstrong Machine Works, Three Rivers, Michigan, is exhibiting a complete line of steam traps. A glass model of the Armstrong trap operating under five pounds steam pressure is shown whereby the operating cycle and advantages of the item can be discerned. In addition sectional models and traps of various sizes and types are displayed.

Jenkins Brothers

▪ ***Valves***

Jenkins Brothers, New York, is exhibiting over 400 different types of bronze, iron, and steel valves that are used in the production, refining and marketing divisions of the petroleum industry. In catalog 23, on display, are shown over 500 different valves. Special emphasis in the display is given to iron body gate valves both with solid wedge and with double disc seating arrangements; bronze gate valves, cast steel gate valves, loading rack valves and foot valves.

Jenkins Gate Valve

▪ ***Gate Valve***

The Jenkins iron body, double disc, parallel sea gate valve has outside screw and yoke which is guaranteed for 500 pounds oil, water and gas, and carries a 1000-pound test rating.

▪ ***Loading Rack Valve***

The Jenkins bronze loading rack valves for use at bulk terminal plants and similar services, is designed to damper liquid-hammer and shock so often caused when lines are suddenly closed. This feature

Jenkins Loading Rack Valve

lengthens the life of pumps, casings, fittings, and assures correct meter reading. The valve closes tight and prevents waste and spilling which often becomes a serious fire hazard.

▪ ***Foot Valve***

The Jenkins foot valve shown is for use at the end of the suction line in the gasoline pit at service stations and similar services. This valve is fitted with a specially compounded renewable disc which cannot stick or become jammed.

Jenkins Foot Valve

Installations for more than six years in some of the large service stations offer convincing proof that the foot-valve reduces excavation and maintenance costs. Special guides and long bearing surfaces built into the valve prevent leakage due to traffic vibrations and climatic variations.

CLARK SUPER 2 ANGLE COMPRESSOR

See

THIS COMPRESSOR AT THE EXPOSITION

CLARK

CLARK BROS. COMPANY, OLEAN, NEW YORK, U. S. A.

Export Office: 30 Rockefeller Plaza, New York. Midcontinent Sales Offices and Warehouses: Tulsa, Okla., Dallas and Tyler, Tex. West Coast Office: Smith-Booth-Usher, 2001 Santa Fe Av., Los Angeles. Foreign Offices: 72 Turnmill St., E. C. 1, London, England. 4 Str. General Poetas. Bucharest, Roumania.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Parkersburg Rig & Reel Company

Parkersburg Rig & Reel Company, Parkersburg, West Virginia, is exhibiting tanks, brakes, band wheels, saddle bearings, pitman stirrups and rod hanger bearings, counterbalances, gin poles, long stroke pumping units, pitmans, extended leg derricks and substructures, and stairways and walkways.

▪ *Wrought Iron Tanks*

Wrought iron lease tanks displayed by Parkersburg are constructed of Byers genuine wrought iron and are available in sizes from 250 to 1500 barrels capacity. They can be furnished plain, aluminum painted or galvanized. The manufacturer, however, recommends the use of galvanized finish for severe corrosive areas.

▪ *Steel Band Wheel*

Parkersburg displays a steel band wheel with several new features. The arms or spokes are the ship channel type and fit over bosses cast on the hub. This relieves

Type "P" Band Wheel

the bolts of all shear strain. The wheel is built in halves for convenient transportation and arms are held in place during shipment by plates welded to the hub ends. It is made in eight sizes and is known as the type "P."

▪ *Hydromatic Brake*

The hydromatic brake displayed by Parkersburg is so constructed that its capacity and power increases in proportion to the load. It has been credited with making very substantial savings on brake bands and increasing the margin of operating safety. The braking action is dependent on fluid friction instead of dry friction, and there are no moving parts to wear out.

▪ *Saddle Bearing*

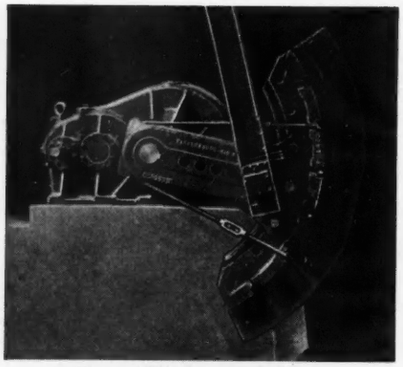
Parkersburg also exhibits a new flood-lubricated saddle bearing. It is dust and oil tight and has oversize bearing areas. An outstanding feature is the provision for both lateral and longitudinal adjustment. This takes care of any misalignment that might occur while setting up the samson post. A swivel feature can also be provided so that the beam may be swung to one side while servicing the well. This is known as the Type "BB" saddle bearing.

▪ *Pitman Stirrup and Rod Hanger Bearing*

The company also shows its improved pitman stirrup and rod hanger bearing. It is flood-lubricated, dust and oil tight. A ball and socket arrangement makes it self-aligning with the walking beam. This bearing is known as Type "D-1."

▪ *Counterbalance*

The Type "C" counterbalance is among the items displayed by Parkersburg. Pro-



Type "C" Counterbalance

vision for relieving the attachment bolts of all centrifugal force is a feature of this counterbalance. Torque is transmitted to the crank by driving ears that fit into recesses in the main weight. Range of effective weight is from 3825 pounds to 10,759 pounds. It can be set to lead or lag by 15°. An adapter is available when the operator desires to use it with a standard A.P.I. four-hole crank.

▪ *Type "D" Pitman*

The new Type "D" pitman is another Parkersburg display. Ease of attachment and detachment is an outstanding feature. The wrist pin bearing is mounted in a circular dust tight housing which is wedge-clamped. The stem is constructed from a 5-inch—8.9 H-beam section. It is claimed that this type pitman does away with local bearing distortion and excessive wear from peak cycle loads.

▪ *Long Stroke Unit*

One of the chief attractions at the booth is the long stroke pumping unit. This unit is said to offer many outstanding advantages. The twin crank assembly is mounted in front of an oscillating samson post and is connected to rigid front columns by guide links. This arrangement assures a true, straight lift pumping motion. The SC-10 is rated at 20,000 pounds and has a 10-foot stroke. The SC-11 is rated at 30,000 pounds and has an 11-foot stroke. Both units have a speed of 6 to 15 strokes per minute.

▪ *Extended Leg Derrick and Substructure*

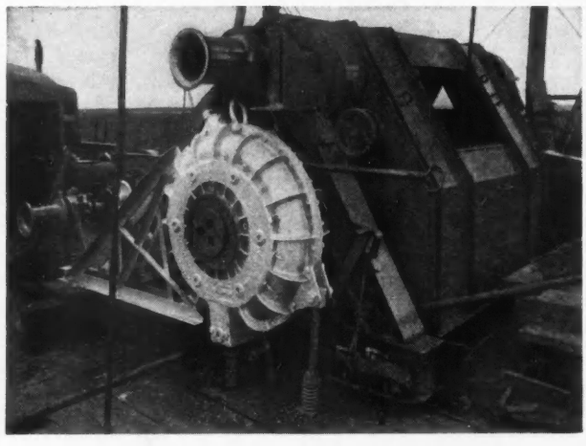
Parkersburg shows a new type derrick and substructure. The legs of this new type are extended to form the corner columns of the substructure. Thus all intermediate members can be removed without disturbing the derrick. In other respects it is similar to the Parkersburg Type "HA" substructure. This extended leg design is known as the Type "EL."

▪ *Stairways and Walkways*

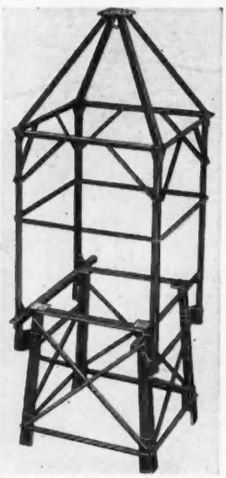
Parkersburg exhibits the Type "D-1" walkway and stairway. The walkway section is formed from a single sheet of copper bearing steel. The tread is skid proof and self-cleaning. Stairway treads are 24 inches long and 9 inches wide. Like the walkway section they are formed from a single sheet of steel. Stairways can be supplied in almost any height from 5 feet 7 inches to 24 feet 3 inches.

▪ *Pyramid Gin Pole*

The pyramid gin pole is displayed too. It provides enough clearance so that crown blocks can be assembled on the derrick floor and then raised to working position. The gin pole legs bolt directly to the derrick legs and assure a direct and even distribution of the load. Vertical clearance is 13 feet above the 24-inch water table beam. Lateral clearance is 7 feet, 3 inches.



Parkersburg Hydromatic Brake



Pyramid Type Gin Pole

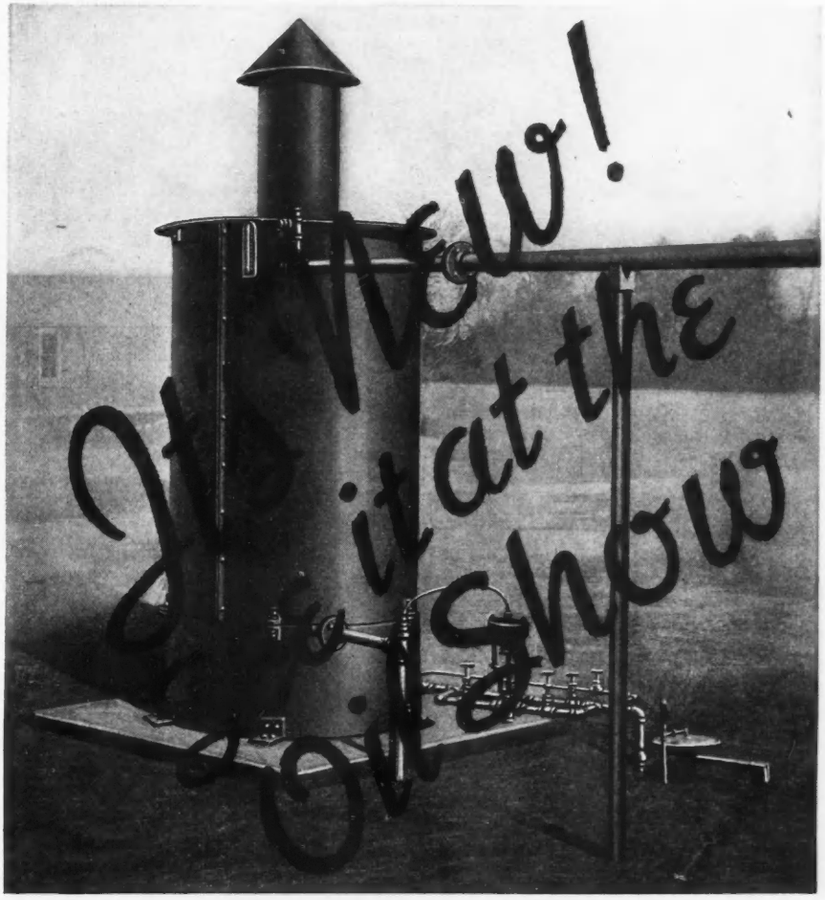
Hyatt Roller Bearing Company

▪ *Bearings*

Hyatt Roller Bearing Company, Newark, New Jersey, is exhibiting a complete line of roller bearings for use in connection with machinery used in the drilling, pipe line, production, transportation and refining branches of the industry.

Among the more prominently displayed types are the wound roller type, the solid roller type, the "D" type, and the wide types.

BRODERICK OIL TREATING HEATERS



THE BRODERICK COMPANY

MUNCIE, INDIANA — — — — — U. S. A.

DISTRIBUTORS

THE NATIONAL SUPPLY COMPANY

FIELD EQUIPMENT Featured at International Petroleum Exposition

Westcott and Greis, Inc.

▪ ***Control***

Westcott and Greis, Inc., Tulsa, is exhibiting a varied and complete line of control and regulatory devices manufactured by a number of manufacturers which this company represents. The exhibit consists of orifice meters, flow meters, volume controllers, positive displacement meters manufactured by the American Meter Company; Reliance regulators manufactured by American Meter Company of California; Crosby valves and indicating gauges of the Crosby Steam Gage and Valve Company; water meters, oil meters and gasoline meters manufactured by Buffalo Meter Company; orifice fittings manufactured by the Robinson Orifice Fitting Company; regulators manufactured by the Davis Regulator Company.

Burdett Oxygen Company

▪ ***Welding***

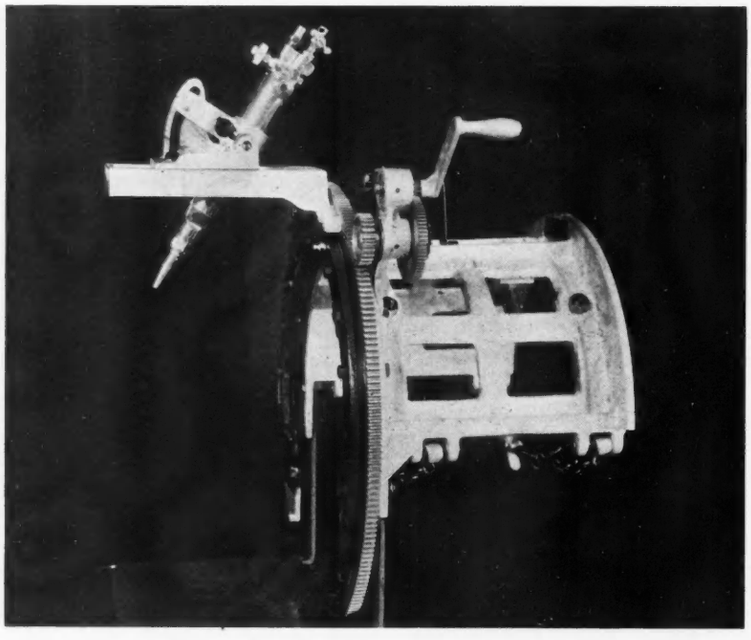
Burdett Oxygen Company, Welders Supply Company, Tulsa, (a unit of Compressed Industrial Gases, Inc., Chicago), is showing a line of welding supplies, accessories and machines. An item of interest is the pipe cutting and beveling machine, manufactured by H & M Pipe Beveling Machine Company, Tulsa. This machine is designed for speed and economy in cutting and beveling. It is of the portable type, due to its light weight and aluminum construction. Cast iron track is used where wear would be most encountered. The machine can be equipped with either one or two torches, providing latitude in the cutting operations, and the torches may be set at any angle desired. Quick operating chain fastners are used to securely hold the machine in place on the pipe. The spacer bolts are adjusted with the proper size of washers to space out the spacer bolts to handle the particular size of pipe to be cut. The machines are offered in three sizes to handle pipe from 4- to 8-inch, from 8- to 12-inch and from 14- to 20-inch, with larger machines made on order.

Homestead Valve Manufacturing Company

▪ ***Valves***

Homestead Valve Manufacturing Company, Coraopolis, Pa., is exhibiting the full line of Homestead quarter-turn valves including, straight-way, three-way and four-way. In addition the exhibit includes the Homestead 2-handle lift type valve. In this type, of construction the powerful mechanical leverage afforded by lifting the nut prevents the plug from sticking or jamming, it is said. The plug is lifted from its seat in the body, just enough to break the friction between the plug and the body, and is then free to rotate on the bearing surfaces at the top and bottom of the plug. Actual vertical movement of the plug is just a few thousandths of an inch. The powerful screw action of the lifting seat nut pressing the ground, tapered seating surfaces of the plug and body firmly together is said to insure positive seating. The seating surfaces are turned entirely out of the path of fluid passing through the valve for protection. Straight passage through the plug and body affords free flow of liquids without pressure drop. The sealed bottom and bonnet plus packing around the steam prevents leakage to the outside of the valve.

A quarter turn is required to open or close. The positive outside visible stop limits the travel of the operating lever to 90 degrees. The visible stop also acts as an indicator to show position of the plug and prevents turning the plug in the wrong direction.



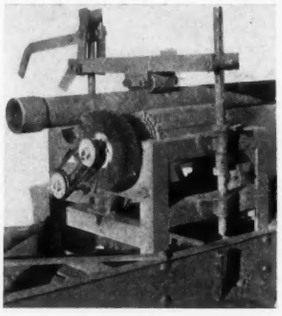
H and M Pipe Cutting and Beveling Machine

New Deal Specialty Company

▪ ***Pipe Cleaning and Straightening Machines***

New Deal Specialty Company, Okmulgee, Oklahoma, is featuring its pipe cleaning machines and duo-hydraulic pipe straightening and pipe bending machines.

The pipe cleaning machines, made in three models and several sizes, are designed for the quick, thorough and economical removal of dirt, rust, scale and



New Deal Pipe Cleaning Machine

corrosion from the surface of pipe and casing. The machines have varying capacities from 2 up to 14-inch OD, with adapters which handle pipe down to ¾-inch diameter, and reflect many important and revolutionary improvements and features in pipe cleaning equipment.

The pipe straighteners and pipe-bending machines, because of their engineering design, construction, speed, power and flexibility, bring new possibilities in the reclamation of bent and crooked pipe and casing. These machines are made in 5 models of varying size, power, strength, capacity and speed, for both hand operation and power driven. All these machines are portable.

Chase Copper & Brass Company

▪ ***Brass and Bronze***

Chase Copper & Brass Company, Waterbury, Conn., is featuring a full line of condenser tube alloys including Chase red brass, a condenser or heat exchanger tube, which, it is said, will not dezincify; and Chase nickel-aluminum bronze—this being an alloy recommended for all condensers or heat exchangers where the present tube failures are from sulfur corrosion. Chase red brass tubes are recommended for all heat exchangers and condensers where water is in contact with one side of the tube and where corrosion of other metals has taken place from the water side. This red brass contains 85 percent copper, the tensile strength is 40,000 to 50,000 pounds per square inch, elongation, (percent in 2 inches) is 40 percent minimum; the Rockwell F. Scale is 60-80 and the grain size is 0.030 millimeter, maximum. The tubes may be readily rolled in the tube sheet and are sufficiently strong to withstand the range of pressures used in oil refining.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Bailey Meter Company

▪ ***Controls***

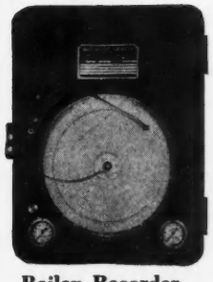
Bailey Meter Company, Cleveland, Ohio, is exhibiting a line of metering and control equipment, both for the control of combustion in steam boilers and the control of process operations in the refinery.

Bailey Boiler Meter

A cutaway model of the Bailey boiler meter with air or gas operated control equipment is shown. This dependable and accurate guide to the maximum combustion efficiency consistent with economical

Bailey Indicator-Controller

boiler operation is easily understood and followed by operators. It records and integrates steam flow from the boiler, records air flow supplied for combustion and records flue gas temperature.



Bailey Recorder-Controller

Through the steam flow-air flow relation, the meter shows preventable losses as soon as they occur and indicates the adjustments necessary to eliminate them. When used with automatic combustion control, the meter automatically operates a pilot valve to cause the control system to correct the losses. Thus, combustion efficiency is secured by keeping steam flow and air flow pens together so that records coincide, one upon the other. The record of flue gas temperature when compared with that of steam flow shows the condition of baffles and flues, and indicates heat absorption efficiency of the boiler.

Bailey controllers for the automatic regulation of flow, pressure, temperature level and ratio are on display. These controllers include a free floating pilot valve suitable for use with air or gas pressure at 35 pounds per square inch or more. Having a neat appearing pressed steel casing and a sturdy reliable measuring element, these controllers are similar to those used in both recording and indicating types of standard Bailey equipment.

They provide adjustment so that the control standard may be set to any point on the measuring range and the sensitivity varied from one to one thousand percent of the measuring range.

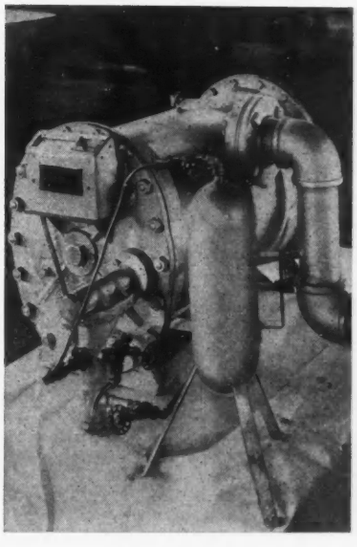
The recorder controllers provide a separate helical coil for operation of the pilot valve and an adjustment whereby the standard may be changed without opening the meter casing.

Other equipment to be on display includes an adjustable orifice for use in connection with flow meters and a diaphragm operated regulating valve for use with air or gas operated controllers.

Hanlon-Waters, Inc.

▪ ***Controls***

Hanlon-Waters, Incorporated of Tulsa, is exhibiting a representative line of Bassler Liquid Meters manufactured by American Liquid Meter Company. The display consists of meters and accessories used in the measurement of crude oil at the well, pipe line service requiring large capacities and operating under a wide range of high working pressures measuring both heavy oils and gasolines of high gravities such as casinghead gasoline, loading rack service, refinery service measuring oils of varying temperatures and viscosities, and fuel oil meters used in measuring fuel consumption to boilers in industrial plants.



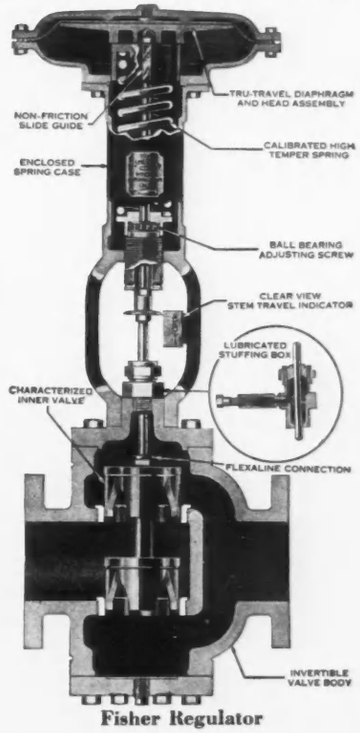
Bassler Meter

In addition to these meters there is on display cutaway models revealing in detail the operating principle of the meters, and models of the Bassler sampler, a device used in conjunction with the meters which gives a true proportionate sample of all liquid passing through the meter. This sampler is adaptable for use on both crude oils and gasoline products, and a more recent application of the instrument has been on high pressure meters measuring casinghead gasoline. In this instance the sample is taken against water displacement and collected in a high-pressure bomb so that there is no reduction in pressure at any time and a true sample is obtained. On display also is a feature and one to be found only in Bassler Meters—an automatic thermostatic control device which is built into the meter as an integral part of it, and which enables the meter to accurately record every gallon passed through it a true 60°F. gallon regardless of the temperature of the liquid at the time of measurement.

Fisher Governor Company

▪ ***Automatic Control***

Fisher Governor Company, Marshalltown, Iowa, is exhibiting a complete line of automatic control equipment, such as pump governors, pressure reducing valves,



Fisher Regulator

gas regulators, steam traps, liquid-level controllers, lever valves, float valves, strainers, pilot operated regulators, and many other types of new automatic controls that have been developed during the past year. Several new internal float type level controllers are exhibited for the first time. The new improved Fisher Wizard pilot operated regulator is shown as well as a complete line of diaphragm motor control valves.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Lee C. Moore & Company, Incorporated

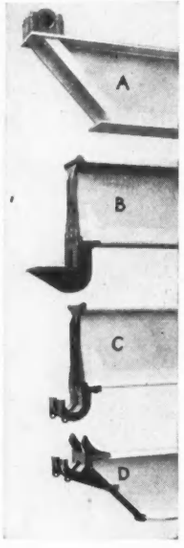
▪ *Derricks*

Lee C. Moore & Company, Incorporated, Tulsa and Pittsburgh, exhibits in addition to products shown at its own booth a Kay Type, 122-foot, angle leg derrick in connection with National Supply Company and a Kay Type, 122-foot, pipe leg derrick in connection with the exhibit of Portable Rig Company.

The Moore booth itself has an illuminated display bringing out the "K" bracing construction utilized in the derricks.

Moore derricks range in height from 66 to 136 feet. Un-reinforced capacities range from 86,000 pounds to 1,248,000 pounds. By the Moore system of reinforcing, capacities of the derricks can be increased by as much as 537,000 pounds, it is claimed.

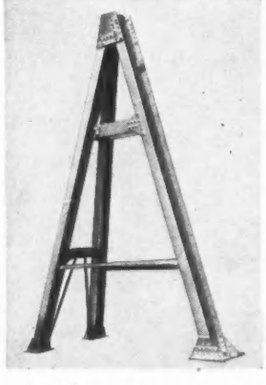
▪ *Walking Beams*



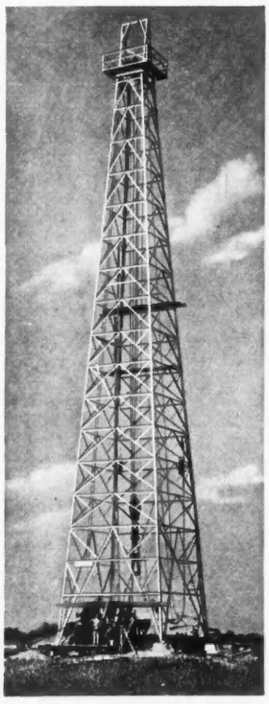
Heavy duty pumping and drilling beams are show in connection with the sampson posts. Flanges are reinforced. The beams are available in lengths ranging from 23 to 28 feet. Ends of the beams are manufactured in four styles, according to the purpose for which the beam is to serve and the equipment to be attached thereto. All beams exhibited have holes for saddle, hanger or stirrup bearings in accordance with A.P.I. spacings.

▪ *Sampson Posts*

An important part of the Lee C. Moore display is devoted to sampson posts, all types of which are rigidly constructed to eliminate vibration and side sway. The 90 Series posts are for severe pumping and drilling conditions. "A" frame design is used, with two 14-inch beams braced with 3 by 3 by ¼-inch angles. These are available in several sizes and strengths. Dimensions of the members of other types and series increase or decrease in accordance with the load to be carried by the post.



Lee C. Moore Sampson Post



Lee C. Moore 122-Foot Derrick

▪ *Other Products*

Other equipment displayed by Lee C. Moore & Company includes oil bath side iron bearings, jack posts, chain oiled jack posts, steel wheels (band and bull), bull wheel and calf wheel posts, pitmans, stirrups, stirrup bearings, roller wrist pin and bearing, oil seal wrist pin bearings, beam hangers, crown blocks, spudders and portable standard rigs.

Macwhyte Company

▪ *Wire Lines*

Macwhyte Company, Kenosha, Wisconsin, is displaying a complete line of specially designed lines used in the oil fields.

Macwhyte Cable Drilling Line

The company's display includes a sample display of sand lines, rotary or casing lines, cable tool lines, pumping lines, winch lines, derrick lines, and wire lines for miscellaneous purposes.

Macwhyte's exhibit is featured by a moving picture showing how wire lines are manufactured.

Macwhyte Rotary Drilling Line

The Lane-Wells Company

▪ *Gun Perforator Service*

The main feature of The Lane-Wells Company exhibit is an actual working demonstration of its gun-perforator. A completely equipped service truck is on the job. It contains a winch, conductor-core cable, electrical control devices, guns and extra loads. The regular sheave assembly,

Lane-Wells Field Truck

carrying depth and weight indicators, is suspended over a firing pit, and the gun perforator is lowered into typical cemented casings at the bottom of the pit. Actual "shooting" jobs are performed at intervals, and visitors are invited to examine the perforations made in the test sections.

▪ *Stratagraph and Lo-Kat-It*

Lane-Wells also has a miniature working model of Stratagraph, an accurate method of electrical coring in cased holes; and Lo-Kate-It, an electrical system designed to solve the old problem of locating the exact point or points of water encroachment in oil wells.

▪ *Multiple Ring Packers*

An interesting display of packers featuring Lane-Wells multiple "ring" packers, is shown. Salient mechanical features are: Five packing rings, consisting of multiple layers of heavy, graphite-impregnated, bias-cut fabric moulded over and around a one-piece rubber core. The layers of fabric prevent vulcanization to casing, and the rubber core assures elasticity to draw rings away from casing when packer is released. These rings are expanded to packing-off position by metal expansion rings that seat on each other with tapered seats, preventing over-expansion of packing rings or damage to casing, protecting packer body from external pressure, and allowing fluid or gas to be trapped between the packing rings.

Left: Lane-Wells Ring Packer
Right: Liner Hanger

FIELD EQUIPMENT Featured at International Petroleum Exposition

▪ *Liner Hangers*

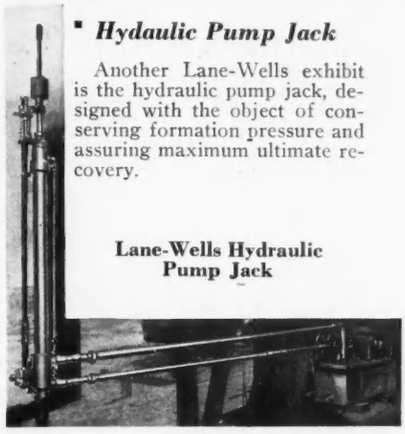
Lane-Wells also is exhibiting liner hangers, which are recommended for preventing sagging and collapse of liners over 100 feet in length.

These liner hangers are regularly furnished in three packing and one plain type and make use of the same features that have been used for Lane-Wells packers.

The cut shows a thin wall packer type, a slight variation of the "ring" packer type, used where clearance between liner and inside of casing is very limited.

Lead packer types and plain types are also available, in all convenient sizes.

A setting and re-setting tool is furnished for efficient setting of each type of liner hanger.



▪ *Hydaulic Pump Jack*

Another Lane-Wells exhibit is the hydraulic pump jack, designed with the object of conserving formation pressure and assuring maximum ultimate recovery.

Lane-Wells Hydraulic Pump Jack

Mechanical features are: Wide range of speed control and constant velocity; upstroke can be one speed, downstroke another; length of stroke is easily varied; simple installation by threaded connection to top of tubing string; increases life of sucker rods; wide range of capacities; easily portable; weighs less than 300 pounds and no foundations are required.

▪ *Magnetic Fishing Service*

Magnetic fishing also is shown by Lane-Wells. The magnets are operated on the same conductor-core cable used for gun perforator service, and are designed to pick up any small metallic "fish" that is not wedged or sanded-in. The magnets are said to be unaffected by casing or by the presence of oil or water.

Left: Lane-Wells Fishing Magnet. Right: Lane-Wells Bridging Plug.

▪ *Bridging Plug*

Lane-Wells also is displaying its bridging plug, which is also run-in on the same type cable, and is subject to same electrical controls, as the gun perforator.

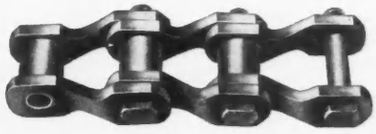
The plug has a packing sleeve made of Duprene, a material practically impervious to deteriorating effects of oil and gas. This sleeve is automatically expanded against the casing and is provided with lips on both ends that cause fluid or gas pressure to further tighten the pack-off.

When the plug has been lowered to the desired depth the operator presses an electric switch, thus detonating a small charge of powder in the plug. This breaks a frangible link, causing the two-way slips to set and releasing cable head from plug.

The Union Chain & Manufacturing Company

▪ *Oil Field Chains*

The Union Chain & Manufacturing Company, Sandusky, Ohio, is exhibiting its line of steel sprocket chains, which are available in various types for oil field applications. On display is a complete series of Union A.P.I. oil field chains, in three different grades and capacities.



Union Oil Field Chain

There is a demonstration of the new Union E-Z oiling system of chain lubrication. This feature of chain design facilitates thorough and efficient lubrication of all of the wearing parts of a chain.

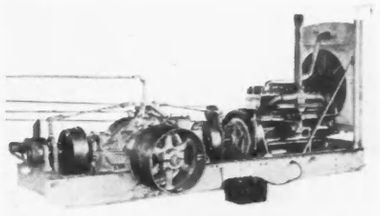
Young Engine Corporation

▪ *Diesel and Gas Drilling Engines*

Young Engine Corporation of Canton, Ohio, is exhibiting its Model 140-DRB Diesel drilling engine and a gas drilling engine, which are designed to meet the demand for drilling engines with great flexibility and a wide range of power and speed, economical and dependable in operation. They are suitable for both cable and rotary drilling. The motor is assembled with the Young reversible transmission as a complete unit on a rigid steel frame.

The Model 140-DRB is powered by a Hercules six-cylinder, 5-inch bore, 6-inch stroke Diesel motor of solid-injection type, developing 160 horsepower at 1600 revolutions per minute. The gas drilling engine uses a 170-horsepower, 5¾-inch bore by 6-inch stroke, 6-cylinder motor.

Power from the motor is efficiently transmitted to the power take-off shaft through spiral-cut, alloy steel, bevel pinions and a large diameter bevel ring gear. Shafts are carried by Timken roller bearings. Gears and shaft bearings run in an oil bath in a dust-proof transmission case. The clutches are of specially designed cone type, operated from the derrick floor by a single control rod whereby the direction of rotation of the belt pulley may be quickly reversed. The power take-off shaft is at right angles to center line of engine. A 20-inch diameter automatic brake applies automatically when the clutch is disengaged and is released upon engaging the clutch.



Young Diesel Drilling Engine

▪ *Gas Mixing Valves*

Young Engine Corporation is also showing its line of gas mixing valves and gas attachments for equipping gasoline type engines to use gas fuel.

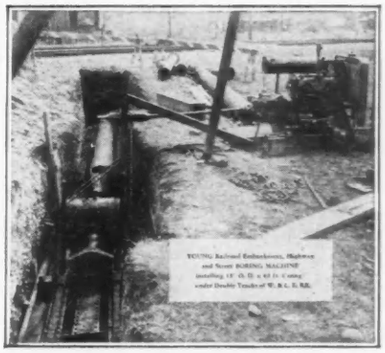
In conjunction with this equipment, use is made of the Young sensitive gas regulator, which maintains the correct and uniform gas pressure necessary for the efficient and economical operation of a gas burning engine.

A number of special gas attachments will be shown for all the various types and sizes of International Harvester engines and power units. A demonstration of these devices will be seen on engines in actual operation.

▪ *Road Crossing Boring Machine*

Young Engine Corporation is also displaying the Young road crossing boring machine, which is a horizontal rotary drill using the pipe which is to be installed as a medium for carrying the rotating hard-faced cutter head.

The machine is placed in the ditch and the gasoline power unit is set up on the bank at the side. Power is transmitted by a counter-shaft adjustable for height, carrying a sprocket with chain drive to the worm shaft on the boring machine. This machine is suitable for installing casings up to 36 inches in diameter.



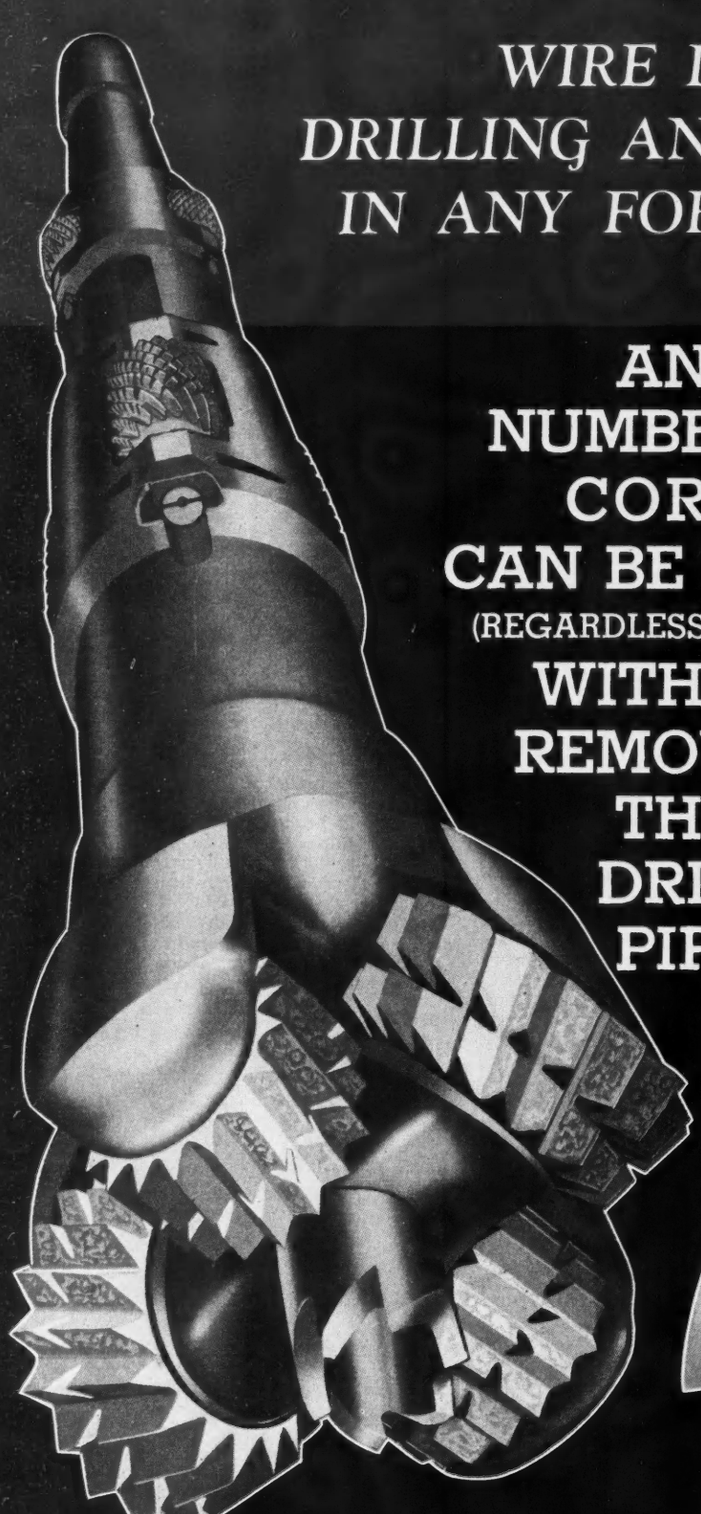
▪ *3-KW Electric Light Plant*

Young Engine Corporation is also exhibiting a 3-KW, 110-volt, direct-current electric lighting plant. This is a compact unit mounted on a steel frame, the generator being direct-connected by a flexible coupling to a 10-horsepower, 4-cylinder, Hood enclosed, gas-gasoline engine, water cooled with radiator.

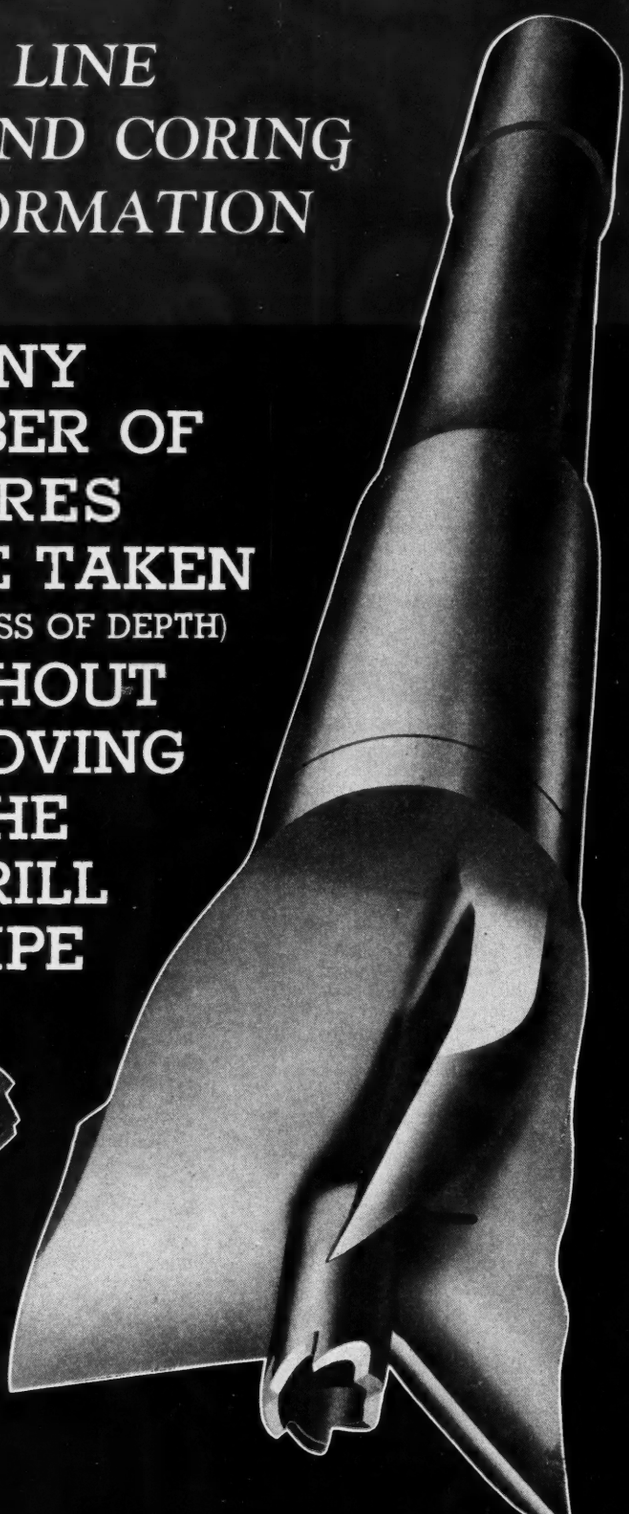
REED *B-R* DRILLING BIT WITH WIRE LINE RETRACTABLE CORE BARREL

WIRE LINE
DRILLING AND CORING
IN ANY FORMATION

ANY NUMBER OF CORES CAN BE TAKEN
(REGARDLESS OF DEPTH)
WITHOUT REMOVING THE DRILL PIPE



REED B-R 6 CONTACT REAMER AND HARD FORMATION DRILLING BIT WITH CORE BARREL IN POSITION



REED B-R DRILL COLLAR AND 3 BLADE DRILLING BIT WITH CORE BARREL IN POSITION

WHEREVER THERE IS ROTARY DRILLING

The Perfectly Balanced Construction of

REED ROCK BITS

has been an important contributing factor in their

LEADERSHIP

FOR

STRAIGHT HOLE DRILLING

REED ROLLER BIT COMPANY

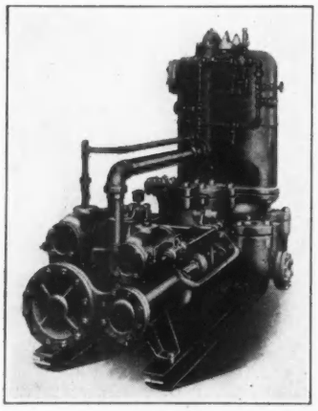
FIELD EQUIPMENT Featured at International Petroleum Exposition

Oil Well Supply Company

Oil Well Supply Company, Dallas, is displaying many items of its drilling and pumping machinery and several exhibits of sucker rods, Di-Hard products, Silverline Working Barrels and other oil field equipment manufactured in its various plants. Most of the drilling and pumping machinery is in motion.

The feature of the display is the exhibit of "Oilwell" advanced steam rotary drilling equipment including machinery designed to substantially reduce fuel and water costs. Three of the most interesting items are illustrated and briefly described as follows:

▪ *Feedwater Heater Pump*

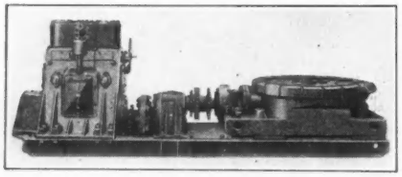


Oilwell Feedwater Heater Pump

The "Oilwell" Feedwater heater pump is a combined feed pump and heater unit. Cold water is sprayed into the heater chamber where it comes into direct mixing contact with exhaust steam at approximately 10-pounds per square inch pressure. The water is heated to approximately 210° F., at which temperature it requires 13 percent less heat to convert it into steam at 250 pounds per square inch pressure than does 55°F. feedwater.

In addition to saving fuel by reducing the amount of heat required in the boilers for converting the feedwater into steam, this feedwater heater pump also saves water since approximately 15 percent of the total steam generated is condensed in the heater chamber and returned to the boilers as distilled water.

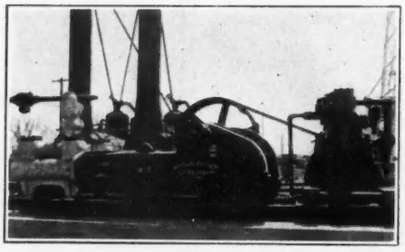
▪ *Rotary Drilling Unit*



Oilwell Rotary Drilling Unit

The "Oilwell" rotary drilling unit consists of a 7¾-inch by 7-inch vertical twin-cylinder steam engine, a gear box and a 27½-inch oilbath rotary, all which are mounted on one structural-steel skid-type base. By providing a short direct-drive through a gear transmission from a small vertical engine to the rotary, the use of the big hoisting engine, the draw works and the cumbersome chain drive is eliminated during rotation of the bit, which takes up approximately 80 percent of the total time a rig is in operation. Many advantages are claimed for this rotary drilling unit, including: (a) more accurate control of the drill pipe and bit, (b) fewer twist-offs, (c) reduction in fuel, water and upkeep costs, (d) quiet and safe operation, (e) higher rotary speeds.

▪ *Vertical Slush Pump Engine*



Vertical Twin-Cylinder Steam Engine driving a Power Slush Pump

The "Oilwell" No. 7 (7¾-inch bore x 7-inch stroke) vertical twin-cylinder steam engine is designed to reduce the fuel and water consumption of a rig approximately 30 percent when it is used to drive a power slush pump and the use of a direct-acting steam slush pump is eliminated. This engine, which is equipped with a hand-controlled variable steam cut-off, uses the steam expansively for a large part of each stroke. Because of the nature of its valve gear, the direct-acting steam pump, on the other hand, must use live steam for the full length of each stroke. The engine driven power pump, making use of the expansive force of steam, greatly reduces steam consumption and, hence, fuel and water costs and related expense.

National Transit Pump & Machine Company

▪ *Gas Engines*

National Transit Pump & Machine Company is showing in the Frick-Reid building a two-cylinder and an eight-cylinder 6 x 9-inch vertical gas engine. These engines are made in two, three, four, six and eight-cylinders with a horsepower range from 27 to 128. The engines operate at moderate speeds, are ruggedly constructed, equipped with explosion-proof twin-magneto ignition systems and because of the multi-cylinders produce an even flow of power. They are being used for pumping oil wells, driving generators, pumps, compressors, etc.

▪ *Enclosed Power Pump*

National Transit Pump & Machine Company has on display a 10-inch stroke enclosed horizontal power pump with side pot type of liquid cylinder. The crankshaft and pinion shaft of this pump are mounted on roller bearings. The built-in herringbone gear speed reducer, crank pin and crosshead are all lubricated by splash from the oil in the crank case. The liquid cylinder is furnished in 3½ to 7-inch bore with collar type removable liners held in with set screws through the head. This heavily constructed, totally enclosed, automatically lubricated pump will give years of trouble free service.

▪ *Horizontal Side Pot Pump*

National Transit Pump & Machine Company is showing an 8 x 3½ x 12-inch horizontal single side pot pump with removable collar liners held in place with set screws through the cylinder head.

▪ *Vertical Triplex Pump*

The company is exhibiting a 2¾ x 4-inch vertical triplex pump with their "Ace" type liquid cylinder. This "Ace" type pump has very much closer clearance than the conventional vertical pump.

▪ *Pipe Line Scrapers*

National Transit Pump & Machine Company is showing its standard line of flexible knife type pipe line scrapers and a new line of non-flexible brush type scrapers for gasoline lines. These are fitted with a special rubber composition disc which increases in outside diameter in the gasoline or crude oil and thus maintains a tight fit with the inside of the pipe as it wears. These scrapers are equipped with heavy duty pressed steel guide arms and each arm has a double, large diameter wheel for long life.

▪ *Rotary Pumps*

National Transit Pump & Machine Company is displaying a 50-gallon per minute and a 25-gallon per minute rotary pump. They build these pumps up to 1000 gallons per minute capacity. They guarantee these pumps to have at least 25 inches of mercury suction and to work against 100 pounds discharge pressure. They are being used to pump water, gasoline, oil or any liquid that will flow into the pump.

Black, Sivalls & Bryson, Inc.

▪ *Separators*

Among other products Black, Sivalls & Bryson, Inc., Oklahoma City, is showing a 1000-pound separator in actual operation to illustrate the tightness and regularity of its valve action.

A full-sized working model of a new kind of separator will be on exhibit also. This separator measures the oil and any water as it separates it, thereby the producer can have this information from hour to hour.

▪ *Flow Treater*

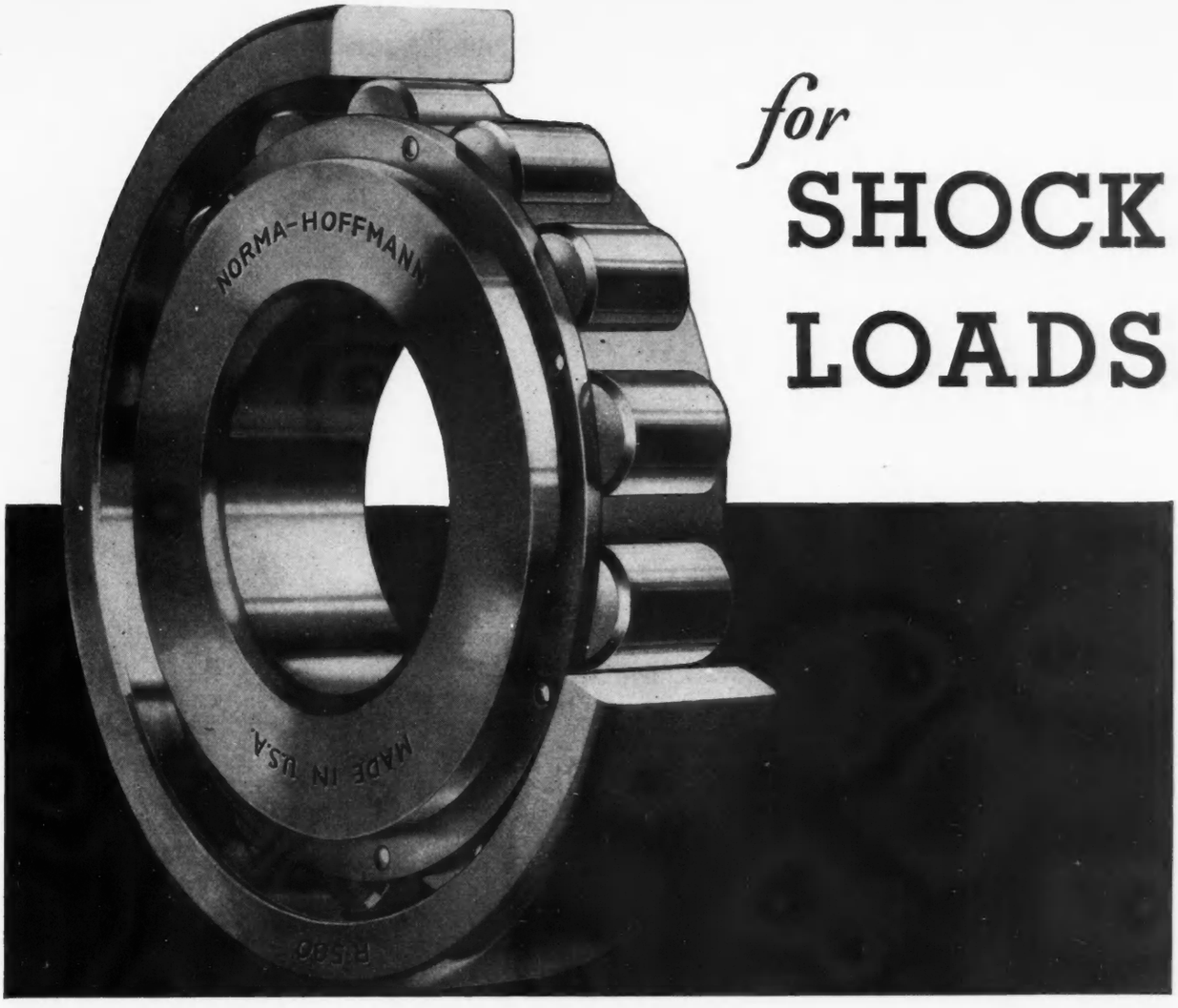
Black, Sivalls & Bryson, Inc., has a full-sized flow treater with big shell heater set and piped to demonstrate the simplicity and economy of this new combination separator, heater, and treater.

▪ *Tanks*

A half-section model illustrates the sloping baffle construction of BS&B wood treating tanks, which is said to greatly reduce treating and heating costs.

▪ *Tank Thief*

Black, Sivalls & Bryson, Inc., is introducing a new thief drip pan, which will make it simple for gaugers to keep tanks clean, no matter how hard the wind blows.



for SHOCK LOADS

ADD shock load and vibration to an extremely severe steady load—and you have a set of conditions that tests the strength and endurance of any bearing. It is under such conditions that NORMA-HOFFMANN PRECISION ROLLER BEARINGS show their superiority.

Equipped with solid cylindrical rollers between cylindrical races, NORMA-HOFFMANN ROLLER BEARINGS provide maximum load contact area—which means correspondingly increased capacity for both steady loads and overloads, together with greater shock resistance than any other type of single-row bearing affords.

Moreover, they employ a heavy-duty, balanced, extruded bronze retainer—riding on the inner ring shoulders and relieving the rollers of its weight—that insures added durability. And their PRECISION qualities make them suitable alike for low and high speeds. . . . . Write for the Catalog. Let our engineers work with you.

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PRECISION BALL, ROLLER and THRUST BEARINGS

Booth No. 8, Texas Building, International Petroleum Exposition

NORMA-HOFFMANN BEARINGS CORP'N., STAMFORD, CONN. U.S.A.

FIELD EQUIPMENT Featured at International Petroleum Exposition

John Zink Company

▪ ***Burners***

Zink Burner

John Zink Company, 4401 South Peoria Street, Tulsa, Oklahoma, is exhibiting a complete line of burners for oil industry use. Included in the display is the following equipment: short flame "Bi-Mix" burners for refinery stills and boilers; a special short flame burner for oil field type burners; burners for low pressure heating boilers; "Ring" type combination oil and gas burners for large refinery stills and power boilers; three types of steam atomizing burners, domestic conversion gas burners, and straightening vanes.

Lucey Boiler & Manufacturing Corporation

▪ ***Oil Country Boilers***

Lucey Boiler & Manufacturing Corporation, Chattanooga, Tenn., is exhibiting its line of Lucey 84-inch, rivetless fire box, oil country boilers such as are used in drilling, gasoline plants and stations. This boiler was placed on the market during the early part of 1934 and it embodies some radical changes in design.

Briefly, those changes consisted in butt-welding the fire box heads to the fire box wrapper. By this construction, all of which is approved by the A.S.M.E. Boiler Construction Code, the section of metal between the fire and the water is of uniform thickness throughout, and the heat-transfer is not retarded by lapped plates and rivet heads. Over-heating, leaky seams, and burned rivet heads are avoided. The advantages of this feature are far greater developed horsepower rating with no increase in firing.

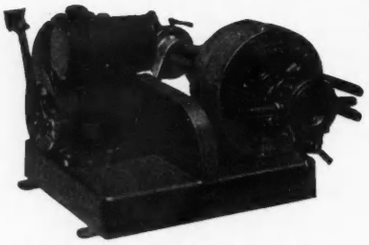
For classification purposes only, the American Petroleum Institute rating of "one horsepower to each 10 square feet of heating surface" is used. Nevertheless, it was thought that through basic principles in design, such as thin-heat-transfer sheets, short tubes, and their arrangement, together with the new construction of the fire box, a much better development was to be expected than with boilers without these features. This at the same rate of firing.

The Oster Manufacturing Company

▪ ***Pipe and Bolt Machines***

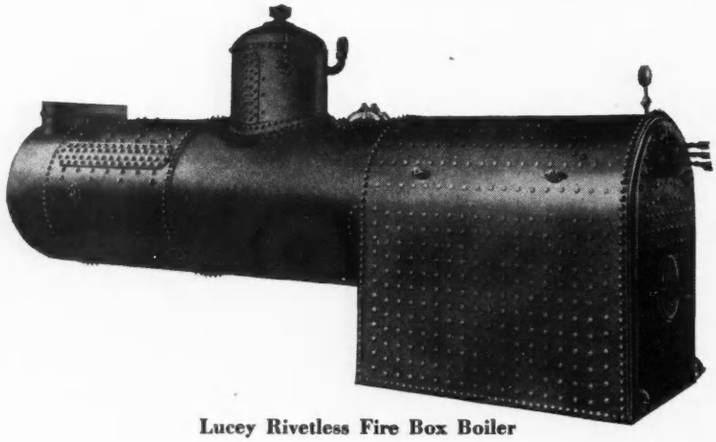
The Oster Manufacturing Company, Cleveland, Ohio, is exhibiting its complete line of threading equipment, bucking up machines and torch cutting machines for pipe intersections.

Among the other machines is the new, No. 8 XHD Rapiduction Machine

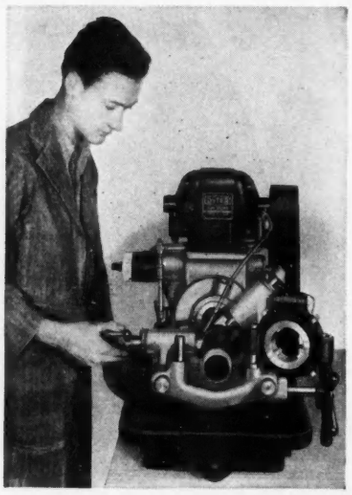


Power Boy Gas Engine Driven Pipe Threading Machine

for threading and bucking up work on sizes up to 8⅝ inches O.D. This is an extra heavy-duty outfit, designed especially for oil field requirements. All shafts



Lucey Rivetless Fire Box Boiler



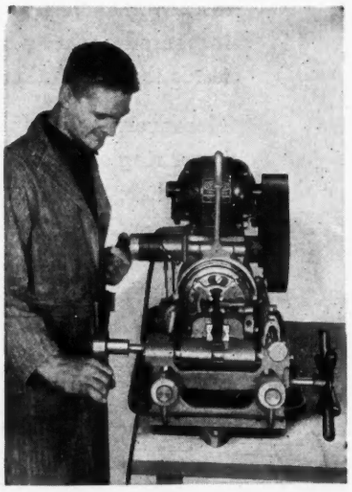
Tom Thumb Pipe Threading Machine

are oversize and are made from high-carbon steel, heat-treated and are mounted on Timken roller bearings. The headstock gears are of high carbon steel and also heat-treated.

The clutch is of the double-action type which can be used to throw directly from a low speed into a high or high-speed to a low without shifting gears. It is a friction disc clutch having a capacity of more than twice the overload rating of the 15 H. P. motor which drives the machine. The two clutch speeds together with the regular transmission give the machine a complete range of spindle speeds from 3 to 87 R.P.M. so that the most efficient speeds and power for bucking up, threading and cutting off, may be easily obtained.

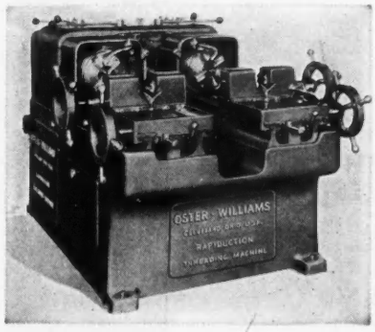
The spindle is of forged steel mounted in bearings 9 inches long with gravity lubrication.

The power generated by the motor and transmitted by the gearing makes it possible to exert more than 30,000



Tom Thumb Bolt Threading Machine

FIELD EQUIPMENT Featured at International Petroleum Exposition



Oster-Williams Threading Machine

foot-pounds torque at the chucks for bucking up work.

The chucks are steel body and the rear chuck is equipped with flange jaws. Only one set of jaws is necessary for the complete range of from 2½ I. D. to 8⅝-inch O. D.

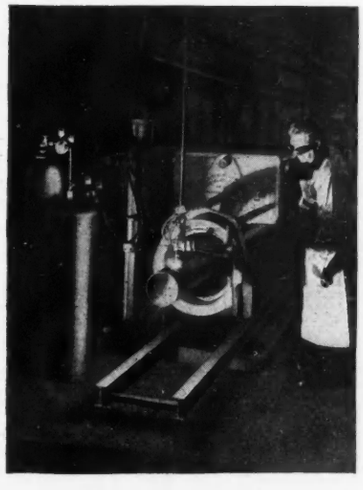
A standard Williams Rapiduction die-head is used to handle the full range with only one set of chasers for each pitch. The die-head is equipped with the cascade oiling system for supplying cutting compound directly onto chasers and material. The high speed steel cut-off, reaming and chamfering tools are mounted on the rear of the die-head.

The carriage has a maximum travel of 28-inches, is equipped with a thread-length gauge and has a suitable means of adjustment for wear.

Equipped with a lead screw and gears for the four changes, it is possible to handle pitches 8, 10, 11½ and 14. Only one gear need be changed to secure each pitch.

A receding attachment of conventional design is standard equipment for use when cutting long, correctly tapered A.P.I. threads. It is provided with 3/16, ⅜ and ¾-inch taper.

The No. 706 Wilco machine is for lighter duty oil field use. It has a capacity covering all sizes from 1-inch I.D. to 6⅝-inch O.D. with only one die-head and one set of chasers for each pitch. It is equipped with an extra long die-head and extra wide chasers which will cut long, correctly tapered A.P.I. threads without the use of a receding attachment.



Oster-Williams Torch Cutting Machine

Manzel Brothers Company

▪ *Force Feed Lubricators*

Manzel Brothers Company, Buffalo, New York, have on exhibition a very complete line of force feed lubricators and are showing working models of Model "25D" and Model "94D."

The Model "25" lubricator has been designed especially with the needs of the oil fields in mind. It is ruggedly constructed to withstand hard usage, will pump against high pressure, has a wide range of adjustment, and extra large reservoir capacity.

All working parts are completely enclosed in the reservoir and work in the oil continually, yet any pumping unit may be removed without stopping the lubricator on the equipment on which installed and without interfering with other units.

Each feed is independently adjustable and may be regulated to supply any amount of oil required.

These lubricators are made with from 1 to 30 feeds and with various types of drives.

The Model "94" lubricator is of the liquid sight feed type. On this model a single plunger pumping unit draws the oil from the reservoir and forces it, through a liquid filled sight glass, directly to the point to be lubricated.

This type of lubricator is recommended for use on air and ammonia compressors, also for small gas and Diesel engines.

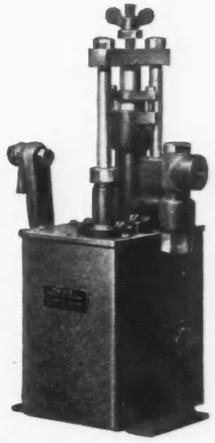
These lubricators are fitted with tubular sight feed glasses, guaranteed to withstand 1500 pounds pressure, and all sight feeds are equipped with the "Banzel" sight feed filling screw which enables the operator to refill the glasses at any time without disconnecting the oil lines.

All plungers are oil sealed, an exclusive Manzel feature.

All lubricators are fitted with a gauge glass to show the height of oil in the reservoir; a hand crank for use before starting the engine or if more oil is needed momentarily, and with a large filling cup and removable strainer.

Model "94" lubricators are made with from 1 to 20 feeds and with various types of drives.

Manzel Three-Feed Lubricator



Manzel Ratchet Drive Chemical Feeder

▪ *Chemical Feeders*

Series "60" chemical feeders for automatically measuring and delivering chemicals into crude oil lines when treating oil, feed the chemical into the line in exact proportion to the amount of oil being pumped and may be regulated to supply any desired amount.

On these feeders the entire driving mechanism is enclosed in an oil-tight case, fully protected from dust, and operates in a bath of oil at all times.

The pumping unit, the only part which comes in contact with the chemical, is a simple, single-plunger pump, with packed stuffing box on plunger, and adjustable plunger stroke, permitting accurate regulation. The unit is arranged on the outside of the feeder where it is readily accessible and may be examined, repaired or replaced without dismantling the feeder.

Made with ratchet, direct lever, rotary or electric motor drive.

The Timken Steel & Tube Company

▪ *Tubes and Bars*

Displayed against a striking modernistic background showing a ladle from which streams a list of the products manufactured by The Timken Steel & Tube Company are samples of various Timken products. These will illustrate the various types of tubes and bars made and the finishes available on them.

There is also an exceptionally complete flow chart illustrating the tests and data required for a full knowledge of the high temperature characteristics of metals. Illustrations on this display show how hot tensile tests are made, the use of the optical extensometer, how expansion tests are made, hot hardness and impact test set-ups, oxidation testing equipment, the equipment used in making creep studies, and microphotographs of typical structures. Supporting this display material will be published data on the high temperature properties of Timken steel and tubes and charts giving the physical properties of these products.

See THE CONTINENTAL EXHIBIT » » » The Continental Supply Company extends to those attending the International Petroleum Exposition a cordial invitation to make the Continental Building their headquarters, where will be found on display the latest and most up-to-date oil field equipment.

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ONTINENTAL

FIELD EQUIPMENT Featured at International Petroleum Exposition

Jones & Laughlin Steel Corporation

▪ *Tubular Goods*

Jones & Laughlin Steel Corporation, Pittsburgh, is exhibiting with Jarecki Manufacturing Company, its distributors. The company manufactures a complete line of drill pipe, casing, tubing and line pipe in both seamless and welded types that meet A.P.I. specifications. In addition it is showing its standard pipe and hot rolled seamless and steel boiler tubes.

Spang & Company

The Spang line of cable system drilling and fishing tools are being exhibited by Spang & Company of Butler, Pennsylvania. Brief descriptions of the products being shown appear in following paragraphs.

▪ *Spang Weldless Jars*

The drop and hammer-forged weldless process used in manufacturing these jars permit the use of high quality alloy steel. Weldless drilling and fishing jars are made in standard sizes: 2½-inch to eight-inch in diameter and from two-inch to 72-inch strokes.

▪ *Spang Rope Sockets*

Spang Rope Sockets are made of a special composition steel that is carefully forged and then heat-treated to insure the greatest possible strength and resistance to wear.

Left: Spang Weldless Jars.

Center: Spang Rope Socket.

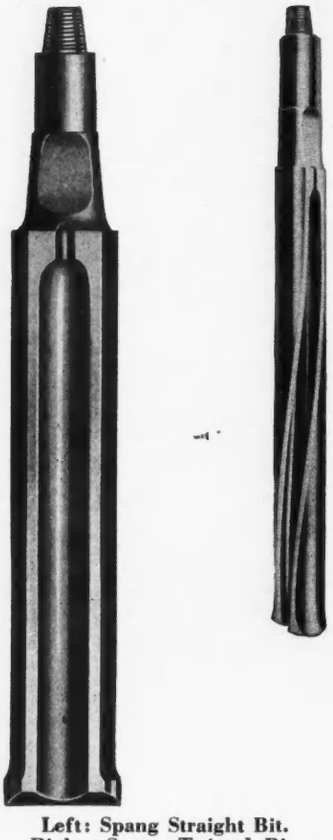
Right: Spang Pin.

▪ *Box and Pins*

Spang heat-treated stem boxes and pins are made of steel of a special analysis to give maximum strength and resistance to wear. They are furnished to field shops rough turned and drilled so they may be turned to any desired gauging.

▪ *Drilling Bits*

Spang & Company is exhibiting its straight and twisted cable drilling bits. These bits are heat-treated and carefully tested before being forged into bits. The twisted bit is being featured. It is claimed this bit will result in a great saving of time and underreaming, as well as insuring a straight and round hole. It has wiping action on the walls and its swirling action tends to mud up the walls and avoid caving. In addition, it is said, the bit may be dressed very easily.



Left: Spang Straight Bit.
Right: Spang Twisted Bit.

▪ *Spang Wire Line Knife*

This knife will cut a one-inch or smaller drilling cable or sand line in 4⅞-inch or larger casing. The plunger drives direct against the cutter knife. The cutting can be done by using rods, pipe or sand line. The knife can be placed on the cable to be cut in one minute and will not cut the cable until it strikes the top of the rope socket, bailer or pump. The outfit consists of one knife, one extra blade, one set of jars, three sinkers and one ball-bearing swivel.

▪ *Spang Sockets*

Spang combination sockets, trap slip sockets and full circle slip sockets are being shown.

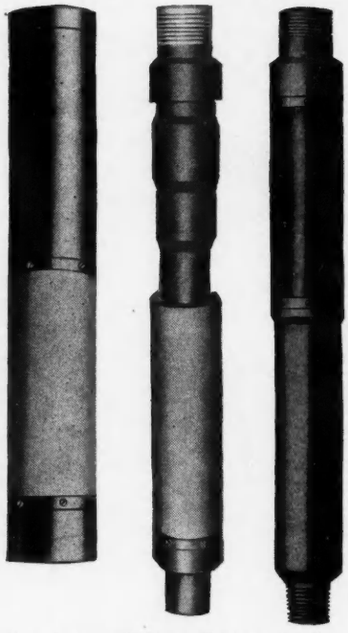
The full circle socket is a new type. The conical bore just above the mouth of the socket provides a backing or seat for three slips, which have corresponding tapered surfaces contacting the entire inner area of the socket bowl.

The slip sockets made by Spang & Company are manufactured from special steel and are scientifically heat treated.

Combination sockets are made from solid forgings of strong steel. The gripping means consists of three slips, which when together, have an external conical shape. These fit into the conical shaped seat of the socket. The slips are forced downward into the seat by a sleeve and compression spring. The object entering the mouth of the socket forces the slips upward and outward to effect its entry. When entered and the socket raised, a wedging action takes place that grips tightly the object.

▪ *Packers*

Spang & Company manufactures a wide variety of packers and is showing its complete line, which includes a lead and rubber bottom-hole packer, Eclipse casing anchor packer; combination wall and anchor packer, Eclipse hook wall packer, three-slip cone Eclipse gas anchor packer, Eclipse gas anchor packer and a midget bottom-hole packer.



Left: Spang Eclipse Casing Anchor Packer.

Center: Three-Slip Cone Expanding Packer.

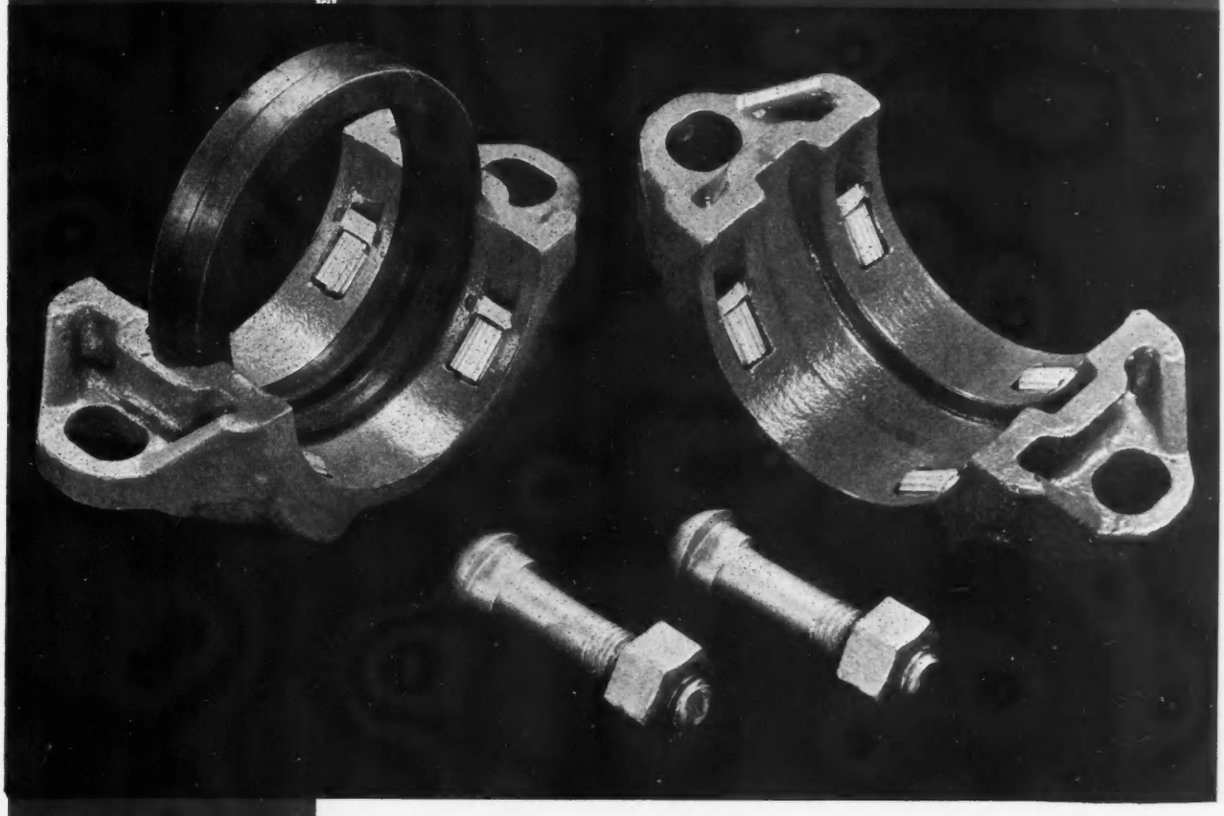
Right: Eclipse Gas Anchor Pocker.

International Nickel Company, Incorporated

▪ *Nickel*

International Nickel Company, New York, has borrowed for exhibition purposes a number of oil industry products loaned by various manufacturers of producing, pipe line and marketing equipment utilizing products of the company in manufacture of those products. International Nickel Company, Incorporated, does not manufacture any equipment for the industry; it merely furnishes nickel to steel and alloy manufacturers, or Monel metal bars or shapes to such manufacturers.

STARRED IN THE BIG TULSA SHOW



Also in the **GUSTIN-BACON BOOTHS**

TEXAS BUILDING
NUMBERS 82, 83, 84

GOODYEAR TIRE & RUBBER CO.
This exhibit will demonstrate the manufacture of COMPASS cord belting—one of the many Goodyear items for which Gustin-Bacon is authorized distributor to the oil industry.

OWENS-ILLINOIS GLASS CO.
Of unusual interest will be this exhibit of FIBERGLAS—[illegible] insulation for which G-B is exclusive distributor in the petroleum [illegible]

G-B ROLAGRIP
Coupling for Plain End Pipes

This newest Gustin-Bacon product will be of special interest to every production man and refiner at the Show. As its name suggests, the Rolagrip is governed by the action of ribbed rollers imbedded in recesses of the coupling. These rollers grip the pipe firmly—and operate in such a manner as to give play to the normal forces of expansion, contraction and allow angular deflection—yet *assure a perfect seal at all times.* We cordially invite you to inspect the giant, *moving* model at Tulsa—and see for yourself why Rolagrip is the outstanding coupling value on the market.

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G-B MFG. CO.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Bridgeport Machine Company

▪ *Roe "Pay" Underdigger*

Among the items of equipment featured by Bridgeport Machine Company is the Roe "Pay" underreamer, a new patented cable tool having a number of uses, the most important of which is to enlarge the producing formation below the casing after a well has been drilled and to recondition old wells by removing paraffin and other obstructions from the walls in the "pay" formations. The tool has been field tested for over two years and is said to have ben used with remarkable success in both new and old wells, increasing production in many cases as much as 200 percent.

Roe "Pay" Underreamer

The accompanying illustration shows the tool in operating position with the two cutters fully extended. These cutters made of heavy, solid blocks of tough steel, are supported in the body of the tool by a socket joint at the top or shank of each cutter. The cutters are folded into the body of the tool, riding the pipe to the bottom. As the tool goes out of the pipe into the open hole, a heavy spring, controlling a cross bar, forces the face of the cutters out to operating position, where they are firmly seated on three points of the body.

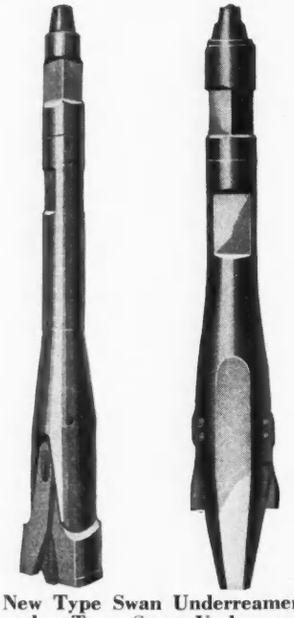
A shoulder may be formed and the tool started at any desired point below the casing, a special set of starting cutters being furnished for this purpose. Then by the use of cutters of various sizes the hole may be enlarged as desired, up to approximately double the size of the drilled hole, or as little as one inch at a time.

▪ *Swan Underreamers*

Bridgeport Machine Company is showing two types of Swan Underreamers, the original tool, known as the regular type, which has been in use for over 40 years; and the new type, developed several years ago. The two types do the same work, but accomplish results in a slightly different manner.

One of the distinctive features of the regular type is that the lower end of the body projects below the cutters to act as a guide to keep the tool directly in the center of the hole while underreaming. This permits an equal amount to be cut from the arc of the circle, producing a straight hole and a perfect shoulder on which to set the pipe.

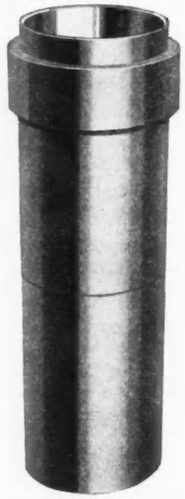
The new type is designed to permit maximum expansion of cutters so the tool may pass through and underream the heaviest or the lightest casing. This type is preferred by those who like a bottom-hole underreamer and one that may be raised and lowered in the pipe while the cutters are in expanded position. The new type Swan is developed in sizes as small as 3 inch. It is also made in all sizes up to and including 24-inch.



New Type Swan Underreamer
Regular Type Swan Underreamer

▪ *Hychrome Slush Pump Liners*

Another item of interest displayed by Bridgeport Machine Company is the new Hychrome slush pump liner, which is made for all sizes, types and makes of commonly used slush pumps. This liner is forged from high carbon, extremely tough manganese steel, then heat-treated to produce the wear-resisting qualities so necessary in a pump liner. They are ground smooth on the outside to accurate measurements and ground and polished to a mirror finish inside. They are built to precision standards throughout and are guaranteed to correctly fit the pumps for which they are made.

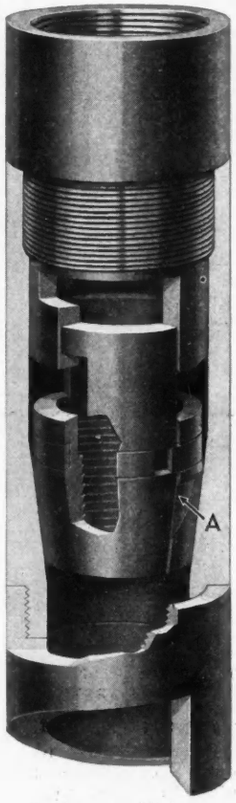


Hychrome Slush Pump Liner

▪ *Releasing and Circulating Overshot*

A special feature of the Bridgeport-Vickers overshot, being shown by the Bridgeport Machine Company, is the fact that the tool may be released easily under any and all conditions without damage to the tool. The "J" slot is employed in this tool. If it is necessary to release the hold, the tool is simply set-down and a slight turn made to the left. The weight of the drill stem forces the slips upward in the bowl until the "J" slots are in Juxtaposition. A short turn to the left then locks them in the released position and the hold is broken when the overshot is raised.

Another important feature is the lead seal which effectively packs off the fluid permitting any pump pressure to be maintained through the pipe while pulling the overshot. When it is desirable to pump through the tool, the lead seal is forced downward by the pump pressure and outward against the bowl, sealing the slot between the split slips, thus shutting off passage of fluid.



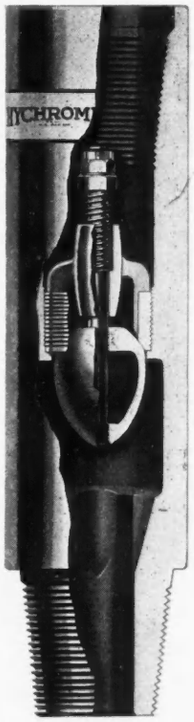
Bridgeport-Vickers Releasing and Circulating Overshot

▪ *Improved Drill Pipe Float*

Another improved tool shown by Bridgeport Machine Company is the Model "A" patented Hychrome drill pipe float. The valve assembly is rigidly "set-up" in the body as one integral unit, assuring proper alignment of valve and valve seat, and positive valve action under all conditions. The valve cage is sealed into the body of the tool on a machined shoulder, making a "joint-tight" rather than a

FIELD EQUIPMENT Featured at International Petroleum Exposition

thread-tight connection, forming a perfectly tight, fluid-proof joint which eliminates the rapid cutting out of body and cage threads. A full-stream-line, hollow float valve is used, reducing resistance to fluid flow. The Hychrome body of the tool is strong and tough.



Hychrome Drill Pipe Float

▪ *Geared Pumping Unit*

Included in the machinery featured by Bridgeport Machine Company is the new and improved Jensen pumping unit which it distributes. The new model, known as Type C. has a number of new features. For example, to pull rods, clean out, or service the well in any manner the head is simply lifted off the beam and dropped down as shown in the illustration. This provides ample room for servicing the well and eliminates the necessity of taking the beam out of the Sampson post bearings and setting it back as was formerly necessary. All friction bearings are oil sealed, requiring only occasional lubrication; all bearings have been greatly enlarged; Sampson post bearings are more accessible; loads are now carried on the lower portion of the Equalizer type head, permitting more adequate lubrication of working parts.

Jensen Geared Pumping Unit

▪ *Rotary Reamer*

Among the rotary tools and specialties being shown by Bridgeport Machine Company is Model "B" double-three-point rotary reamer. Of interest is the fact that the principal wear is taken by inexpensive, replaceable parts which are quickly and easily installed at the well—no parts are welded in. Cutters and other wearing parts are carburized. The body is made of one solid forging.

Model B Rotary Reamer

Maximum service is obtained from the cutters by utilizing the entire cutting surface. Cutters operate in a position perpendicular to the body of the reamer so that their work is uniformly distributed over the entire cutting surface, permitting the cutter to do its work efficiently until the teeth are worn down the entire length of the cutter, thus utilizing the full service of the cutter teeth. This, it is claimed, permits the load to be evenly distributed over the pin on which the cutters rotate so that the wear is uniform, enabling cutters to rotate freely at all times. This results in longer life for cutters and bearing pins, materially reducing the cost of replacement parts.

The company recommends that the reamer be used in connection with one or more long drill collars, which are also made by them in various types and in lengths of 6, 12, 24, 30 and 50 feet.

Keystone Driller Company

▪ *Cleanout Machine*

Keystone Driller Company, Beaver Falls, Pa., is exhibiting its Model 74 Cleanout machine, mounted on a six-wheel Ford truck for reconditioning and maintaining wells. It is an all-steel rig with a 45-foot telescoping steel derrick. It has a bull reel with spooling capacity of 4000 feet of 9/16-inch steel line and two large "V" type molded brakes. It has a sand reel spooling 4000 feet of ⅜-inch steel line, easily and quickly controlled.

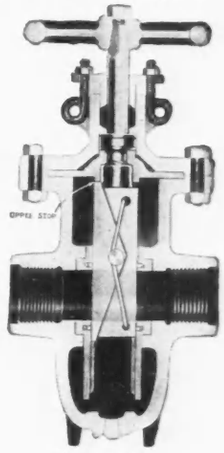
An additional feature is the conveniently located calf reel spooling 250 feet of ⅞-inch steel line permitting an 11,000-pound single-line pull. This machine is powered by a 25-horsepower, 4-cylinder gas engine at 1500 revolutions per minute.

W-K-M Company

W-K-M Company, Houston, is displaying the through-conduit lubricated gate valve, rotary friction slips, tubing slips, round kelly drive, portable pipe straightener, the Merco centrifugal mud separator, rod hanger and the line of W-K-M pipe line equipment.

▪ *Gate Valve*

The W-K-M through conduit lubricated gate valve is designed to overcome the outstanding valve problem by preventing the collection of sediment, scale, etc. The maximum area exposed to pressure in a W-K-M 3-inch valve is 59¼ square inches.



Gate Valve

The body serves as a grease chamber, in which all moving parts are entirely submerged in grease. Parallel gates expand uniformly and double wedge construction assures positive seal-off on both sides in either open or closed position. Patented bronze combination wipe-and-seal rings, in constant contact with the gate, keep gate and seats free from deposits, cleaning at each operation of the valve, it is claimed. Bronze seats, extra large, are quickly renewable.

▪ *Type 35 Friction Slips*

W-K-M Company is showing Type 35—rotary friction slips which take hold or release instantly, and will not slip, cut or bottleneck pipe, the exhibitors state. Light

Type 35 Friction Slips

weight permits ease of handling. Highly flexible. Should wear occur on segments, they are replaced on the derrick floor, or resharpened. One-piece, drop-forged and heat-treated segments are used in the slips.

▪ *Tubing Slips*

W-K-M tubing slips on display are built to fit tubing ranging in size from 1¼-inch to 4-inch, in regular type for medium depths and in deep well type for handling long strings. The construction is four and six segment, with forged steel being used throughout.

Tubing Slips

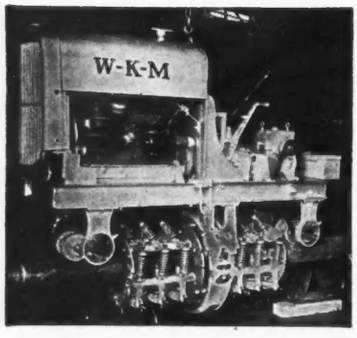
▪ *Hauser Round Kelly Drive*

Another item at the Hauser round kelly W-K-M booth is drive, designed to enable the operator to drill in under pressure or in small diameter casing, using a joint of drill pipe or casing as a kelly. According to the manufacturers, this drive has flexible, self-adjusting roller racks to allow for misalignment and provide a positive drive for rotation. These drives are available for 2-inch, 2½, 3, and 4-inch tubing or drill pipe.

Hauser Kelly Drive

▪ *Pipe Cleaning Machine*

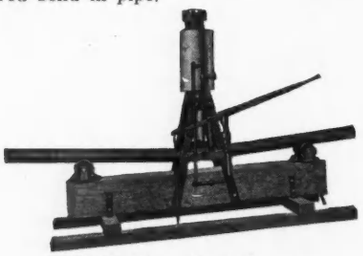
A pipe cleaning machine for use as a traveler or as a stationary contraption is shown at the W-K-M booth. Used as a traveler, it travels along the line under its own power at variable speeds, cleaning around two miles daily, according to the manufacturer. The machine has a double cleaning head containing many toothed cutter wheels which produce a chipping action, removing scale, rust and dirt. A series of steel wire brushes then brush the pipe. Scraper knives are used to remove felt or wrapping. The machine is built in sizes to accommodate pipe ranging from 2-inch to 24-inch.



Pipe Cleaning Machine

▪ *Pipe Straightener*

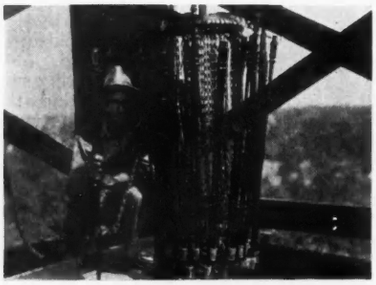
W-K-M also is displaying at its booth a portable pipe straightener, hydraulically operated. The straightener, which has a capacity of 40,000 pounds, according to W-K-M, will straighten or make any desired bend in pipe.



W-K-M Pipe Straightener

▪ *Rod Hanger*

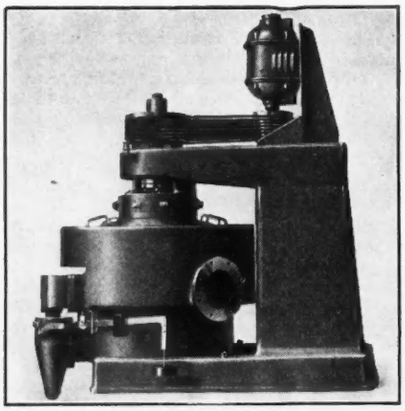
W-K-M also is showing a rod hanger designed to save from 20 to 30 percent pulling time and protect rods against breaking, kinking, sand and grit.



W-K-M Rod Hanger

▪ *Mud Separator*

The Merco centrifugal mud separator is shown at W-K-M Company's booth. According to the manufacturers, this separator has a settling force 67 times as great as gravity, and it mechanically removes substantially all sand and cuttings from drilling mud. It is designed also to perform the function of restoring weight to drilling mud and returning it to its original condition.



Centrifugal Mud Separator

Oakite Products, Incorporated

▪ *Cleaning Materials and Methods*

Oakite Products, Incorporated, New York, is showing a moving panorama of producing, refining, and transportation equipment illustrating the need of each unit for effective cleaning at periodic intervals. The exhibit stresses salvage cleaning of producing and refining equipment, the cleaning of water jackets of Diesel and gasoline engines, the restoration of heat transfer to oil coolers and heat exchangers, cleaning of storage tanks, tank cars, tank trucks, and service station equipment. Steam cleaning is given special attention by showing both the materials and required equipment for doing work of this nature. Avoidance of fire hazards is also being featured at the Oakite booth.

Vitaulic Company of America

▪ *Pipe Couplings*

Victaulic Company of America, New York, is exhibiting its line of flexible and leak-proof pipe couplings. The Victaulic coupling consists of metal half-housings bolted in place over a resilient sealing ring. Each coupling combines the features of a straight-line coupling, a flexible coupling, an expansion joint, and a positive mechanically locked joint.

The seal of Victaulic couplings is accomplished with a unique self-sealing and flexible ring gasket. The oil resisting compounds are used in these ring gaskets.

Of particular interest in the display are two motor-driven models demonstrating flexibility and allowance for contraction and expansion provided in each coupling. The flexing unit consists of two sections of 2-inch Victaulic coupled pipe confining 50 pounds air pressure. One of the pipe ends is rotated continuously through an arc creating severe angular deflection at the joint without leakage. The second unit consisting of four lengths of 4-inch pipe demonstrates the provision in each coupling for expansion and contraction under assimilated field conditions. The display includes both forged steel and malleable iron couplings and fittings for pipe diameters from ¾-inch to 60-inch.

Victaulic Coupling

FIELD EQUIPMENT Featured at International Petroleum Exposition

The Brown Instrument Company

▪ ***Instruments***

The Brown Instruments Division of the Minneapolis-Honeywell Regulator Company, is exhibiting a complete line of indicating, recording and automatic control instruments for refineries and natural gasoline plants.

The display includes several types of air-operated control systems for automatically controlling temperatures, pressure, flow and liquid level. Brown Air-O-Line controllers are provided with simplified throttling range and automatic reset adjustments so that the operator can "tune" the instrument to the job without going on hand control, and these features are shown. Featured in this exhibit is an electric flow meter equipped with the Air-O-Line control system which has also been applied to recording potentiometers, thermometers, and mechanical flow meters. Valve positioners that are designed to overcome valve stem friction, combustion safeguard systems that automatically shut off the gas in case of flame or ignition failure, and flow meters for measuring hot oil or highly volatile liquids are among the other items in this operating exhibit.

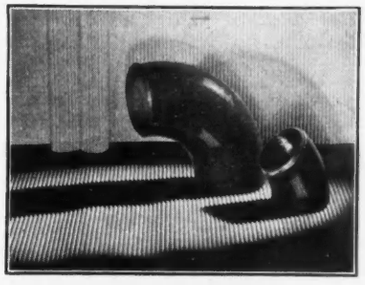
Taylor Forge & Pipe Works

▪ ***Equipment***

Taylor Forge & Pipe Works, Chicago, is displaying a varied line of equipment including its line of "WeldElls," forged steel flanges, Van Stone stub ends, light-walled spiral pipe, welding type nozzles, and a complete line of welding fittings.

▪ ***WeldElls***

In the Taylor "WeldEll" six points are stressed, as follows: outside wall is of full thickness, selective reinforcement with the crotch thickened, short tangents which remove the weld from the curved section and from the greater strains, machine tool beveling to assure clean, accurate welding surfaces, accuracy of dimensions, and forging forming with seamless-type construction.



Taylor "WeldEll"

▪ ***Spiral Pipe***

Taylor light walled pipe of spiral lap construction is shown. It is said that spiral construction gives light wall pipe high bursting strength, high resistance to collapsing and great rigidity. The rugged strength is dependent upon the spiral lap reinforcement, the fundamental principle of spiral pipe construction. This pipe is made in 16 to 8 gauge.

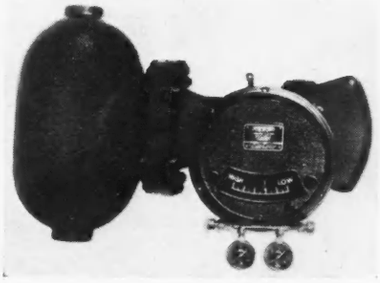
▪ ***Welding Nozzle***

Taylor Welding Nozzles are manufactured with or without the patented extended neck feature. The nozzle with extended neck is of seamless forged steel. It is said that with these nozzles less welding is required. The metal of the extended neck replaces to a large extent the metal removed from the shell opening, and for this reason the saddle diameter is small and the size of the fillet weld required is not large. Heavy necks are considered as a part of the vessel, not of the piping system. Reinforcing is shaped to give maximum efficiency. Bolting flange strength is ample to satisfy American Standards requirements. An ideal welding groove is formed and coated electrode welding is done better under this condition. The extended neck is flexible, being relatively thin and therefore relieves shrinkage stresses. Sound forged metal is brought into contact with the fluid, instead of fluid being in contact with weld metal. The necks are accurately machined to fit curvature of the vessel. Any laminations in the plate are healed up by the full welds across the face of the cut plate. A shoulder nut stop is provided if specified.

Foxboro Company

▪ ***Instruments***

The Foxboro Company, Foxboro, Massachusetts, is exhibiting a complete line of instruments designed and built for process applications in the oil industry.



Foxboro Ball Float Stabilog

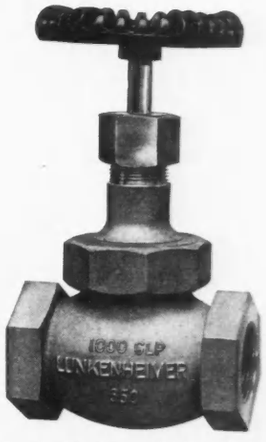
On display are temperature, pressure, level flow, and ball float stabilogs, pyrometers, gauges, thermometers, meters, and auxiliary equipment such as stabilflo valves, etc. Included also are this company's new developments namely: The new Vernier Valvactor, which positively positions valves regardless of stem friction or hysteresis, the new remote valve control which permits accurate manual adjustments on far away air-operated valves from a central panel board, and the Foxboro potentiometer stabilog which is the first instrument to be equipped with a chart and pen to record control deviations.

The Foxboro system of pipe still control known as Stabilset control is one of the features of the exhibit. This coordinated system controls the outlet vapor temperature. It takes into consideration all the variable factors and their interrelated action. It has been designed to overcome the effects of unfavorable lag conditions found in pipe stills.

The Lunkenheimer Company

▪ ***Valves***

The Lunkenheimer Company, Cincinnati, Ohio, exhibit includes a complete line of bronze, iron and steel valves, boiler mountings, lubricating devices and other specialties suitable for oil field and refinery service.



Lunkenheimer Globe Valve

Featured in the exhibit is a new line of bronze globe, gate and check valves rated at 350 pounds S.P. and 100 pounds GLP for high pressure gas, oil and hydraulic service, and steel valves for similar services. The exhibit includes new lines of plug type and full-way "Ferrenewo" and "Renewo" valves—plug type with "NS5" alloy seats and discs of great hardness to resist galling, abrasion, erosion and corrosion, and Full-way "NT4" alloy seats and discs for general use. Also, there is a line of corrosion-resistant valves—"Causul" metal gates, "SA" valves,

Lunkenheimer Gate Valve

all-iron "Ferrenewo" and all-iron "King-Clip," and the iron automatic gauge with stainless steel trim. Other products on display include "Alvor" constant level oil control—a device for maintaining the proper oil level in ring oiled bearings; non-metallic-duct valves, new air nozzles, steel needle valves, and the like.

Hughes Tool Company

Hughes Tool Company, Houston, Texas, is exhibiting various items of specialized drilling equipment of its manufacture, including rock bits, reamers, core bits, tool joints, drill collars, plunger lift, valves and fittings, complete Christmas trees, tubing heads, and related equipment.

▪ *Roller Bearing Rock Bits*

Hughes 3-cone and 2-cone roller bearing rock bits are of forged steel, unit type construction and require no accessories or spare parts. The cones are mounted on forged bodies having tool joint pin connection on the shank. Cones are not removable. The strong forged steel bit bodies, with nothing welded-on, provide a large factor of safety. Bearing pins are forged integral with shank. All cutting teeth and gauge surfaces are hard-surfaced to give maximum footage of full-gauge hole. Simple unit construction lowers cost of changing bits and eliminates repair costs.

Hughes 3-Cone Roller Bearing Rock Bit

Hughes 2-Cone Roller Bearing Rock Bit

▪ *3-Point Forged Reamers*

Hughes Tool Company is displaying three types of improved 3-point reamers, manufactured from select forged steel, with inclined cutter shafts which permit smaller body diameter below the cutters, giving ample clearance between reamer body and wall of hole. The thin chisel-like cutter teeth in concentric rows afford greater penetration with the maximum length of service. Each tooth is hard-surfaced. Each cutter in a group varies in "pitch" of teeth, which eliminates "tracking," and are so spaced as to furnish a complete "staggered" arrangement of teeth within a reamer stage. Long overshot neck provides ample room for handling with elevators and slips. Step diameters on reamer pins provide easy removal and assembly. Staple type lock at top of reamer pin is effective and insures against accidental loss of pin and is easily removed or installed. One-piece body, with nothing welded on, is heat-treated to resist wear at all points. Bodies are designed to permit change of gauge by bushing change only.

▪ *Hughes Core Bits*

In addition to the Type "C" and automatic type core bits, the Hughes Tool Company is featuring its latest improved design, the Type "J" core bit. Outstanding advantages of the Hughes Type "J" core bit are summed up by the manufacturer as follows: 1. Larger diameter of core recovered. 2. Floating core barrel, made of one-piece seamless tubing. The core barrel is not fastened rigidly to any other part of the bit but is free to rotate, thus acting only as a protective covering for the core and making for longer trouble-free service. 3. Double core catcher. The same assembly is used for both hard and soft formation coring. The assembly is made in three parts: upper core catcher, catcher sleeve, and lower catcher. Upper catcher is of the spring finger type. Catcher sleeve is case hardened to prevent wear from the flushing mud. Lower catcher is the spring dog type which has proven successful in holding soft and broken cores. The entire catcher assembly fits in the cutter head close to the bottom and is free to rotate with the core. 4. Hard and soft formation cutter heads fit the same box conection in lower end of working barrel, eliminating the use of a core bit body. Hard and soft formation heads are quickly and easily interchanged for varying formation. The hard formation head is made with the Hughes unit construction. Cutters are supported on hardened shafts welded to a forged heat-treated cutter head crown. Soft formation heads are one-piece castings made of selected alloy steel. Three blade design has proved the most satisfactory. Three extra teeth keep the core clean and accurate size. Both hard formation cutters and soft formation blades are hard-faced with "Hughesite." 5. Vent for relieving pressure above core as the core enters the barrel. This feature aids in getting well formed easy-to-remove cores. The core barrel vent is made up of a vent sub and shrunk-in spider which becomes a part of the drill stem, and a stuffing box assembly which screws into the upper end of the core barrel. The spider allows the flushing fluid to pass through the sub to the bit and permits pressure to exhaust from the core barrel through the vent stuffing box to the outside of the drill stem. 6. Plug for keeping core barrel clean when going in the hole. The plug projects below the cutter head and is held in place by soft iron rivets. When bottom is reached, the rivets shear, freeing the plug which passes up into the core barrel where it floats above the core. 7. Ease of dressing and handling. 8. Simplicity and east of operation. Rugger strength of all parts for long life and safety.

DOUBLE STAGE

SINGLE STAGE

SINGLE (Short Type)

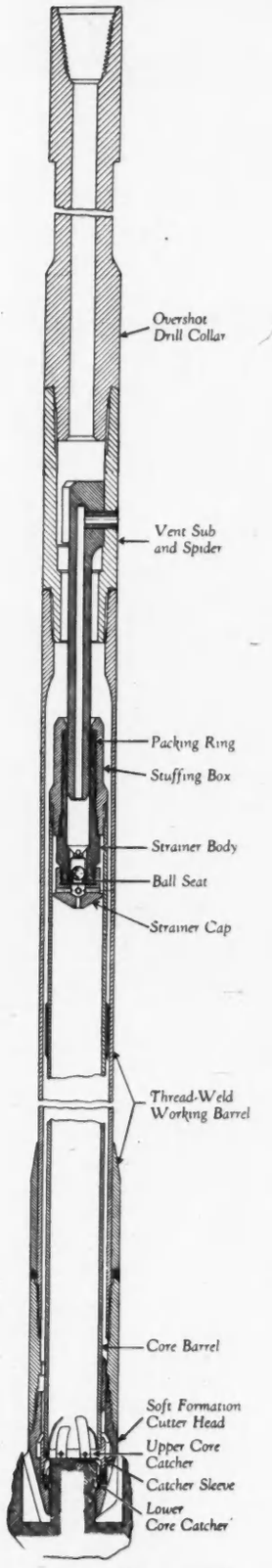
Hughes Reamers

1

Hard Formation Cutter Head

2

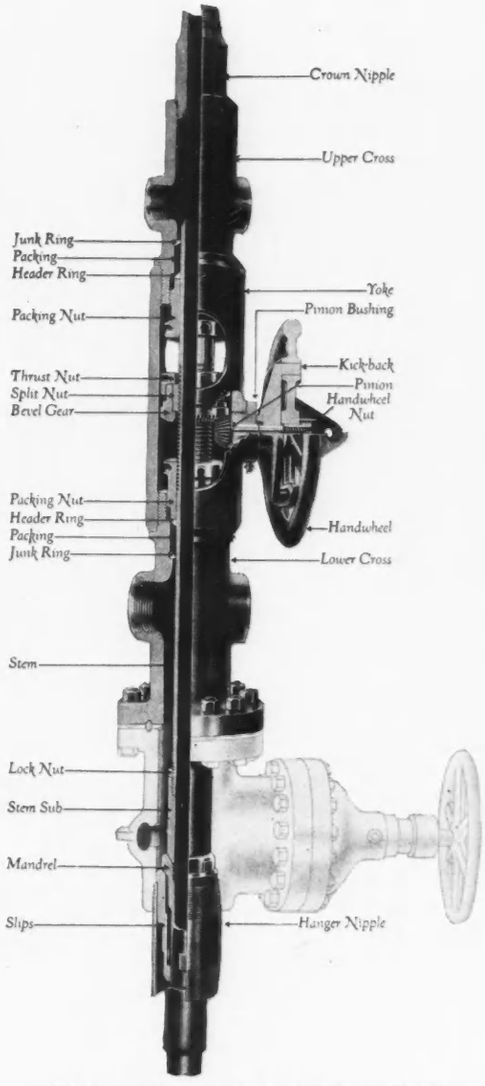
Soft Formation Cutter Head



Type "J" Core Bit Assembly with Vent and Overshot Drill Collar

▪ *Hughes (Brown) Saftey Tubing Head*

This feature, as incorporated in one of the Hughes Christmas Trees on display, provides a safe means of parting the tubing, allowing full operation of the master gate after well has been tubed. The flow may be diverted for any reason through the casing outlets, or in case of emergency, the master gate may be quickly closed cutting off the flow entirely. Some of the advantages of this hook-up claimed by the manufacturer are as follows: 1. Safe, quick, sure . . . can be operated in a few moments time, permitting full operation of master gate after well has been tubed. 2. Simplicity of design . . . compact, sturdy construction affords ideal foundation for Christmas tree manifold. 3. No operating parts exposed to well fluids. 4. Fully enclosed yet readily accessible. 5. Stuffing boxes designed to permit adjustment at any time without dismantling head. 6. Built-in handwheel jar insures a perfect seat at either end of stem. 7. Equipped with universal joint connection for remote control. 8. Means provided for lubricating moving parts.



Hughes (Brown) Safety Tubing Head

▪ *Hughes Tool Joints*

Hughes tool joint exhibit includes a complete line of popular sizes, designs and threads. Joints are sectioned in order to clearly illustrate construction, quality of workmanship, and the three important steps in the manufacture of Hughes joints, viz. the selection and forging of only high grade alloy steel; the machining for accurate interchangeability; and the final heat-treatment which renders the steel strong, tough and wear-resisting.

Hughes Regular and Full Hole "Streamline" Tool Joints

▪ *Drill Collars*

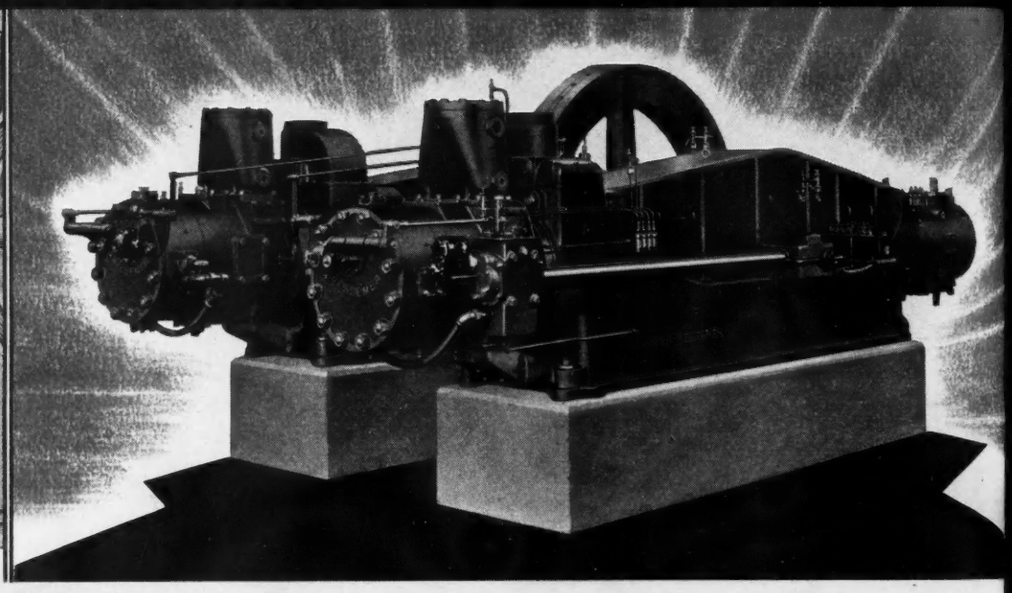
Hughes drill collars are forged from alloy steel of the same quality as used in the manufacture of Hughes tool joints and are completely heat-treated from top to bottom for toughness and maximum strength at all points. Every drill collar is accurately bored and machined—manufactured to specifications in lengths up to 20 feet, according to the manufacturer.

▪ *Valves and Fittings*

Hughes Tool Company is exhibiting a completely assembled Christmas tree hook-up which has been quater-sec-

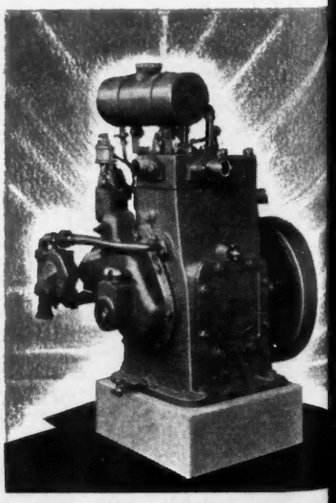
Here's PROGRESS

SEE THIS PAGEANT OF POWER A



A NEW COMPRESSOR

COOPER-BESSEMER Type 12, rated 230 H. P. at 200 r. p. m. The greatest value in two-cycle history, because (1) every engineering detail has been thoroughly developed and tested; (2) accessibility has been vastly increased; (3) capacity to handle overloads is greater; (4) overall operating economy is better.



A NEW STARTER

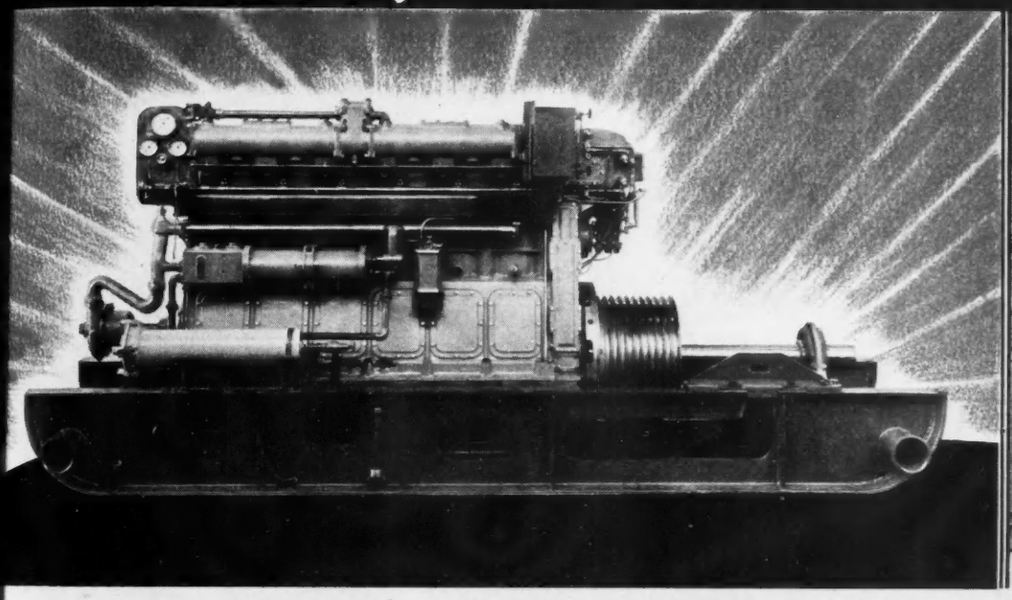
COOPER-BESSEMER Type GX-3A, rated 6 H. P. It's a single-stage air compressor for starting gas and Diesel engines, capable of filling a tank of six cubic feet capacity up to 200 pounds pressure in five minutes, or up to 250 pounds pressure in nine and a half minutes.

NEW CONVENIENCE! *NEW* VALUES!

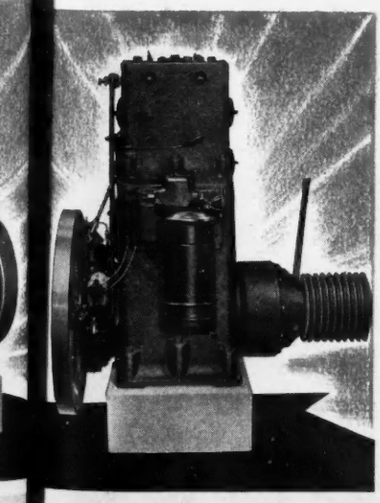
NEW RELIABILITY! *NEW* ECONOMY!

ON PARADE!

AT THE *Tulsa* EXPOSITION



A NEW DIESEL



COOPER-BESSEMER Type EN-6, rated 270 H. P. peak at 700 r. p. m., brings new economy to rotary drilling. Consumption of water, fuel and lube oil cut to a minimum! Weights reduced! Working parts more accessible! Simplified atmospheric-relief fuel-injection system. Diesel sturdiness in every piece and part.

A NEW VERTICAL

COOPER-BESSEMER Type G-SD, rated 40 H. P. at 400 r. p. m. Better designed and better engineered, it will lower your pumping costs! Light; economical to install; cheap to run; built to last a lifetime—with counterbalanced crankshaft, heavy-duty roller bearings, and modern-type crossheads. Convertible.

THE COOPER-BESSEMER CORPORATION

Mt. Vernon, Ohio — PLANTS — Grove City, Pennsylvania

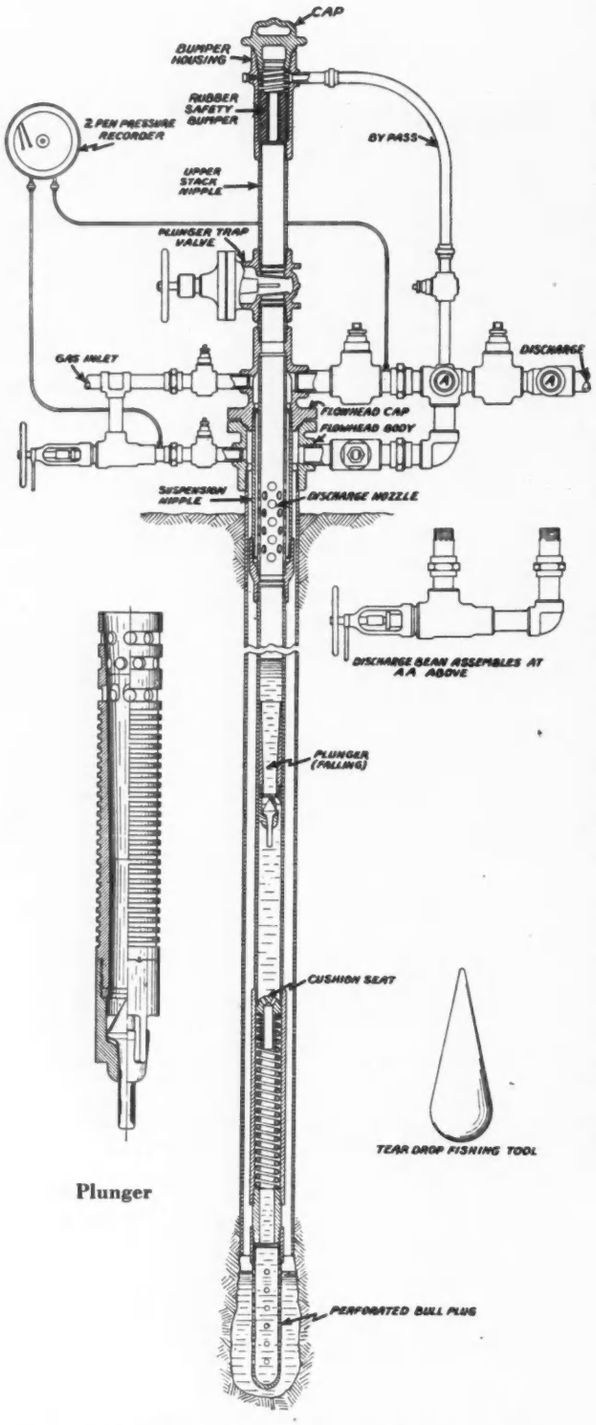
25 West 43rd St. New York City
Mills Bldg. Washington, D. C.
640 East 61st St. Los Angeles, Calif.
201 East First St. Tulsa, Oklahoma
631 Spring St. Shreveport, La.
Magnolia Bldg. Dallas, Texas
Esperson Bldg. Houston, Texas

L. W. Rogers, 6 Finsbury Square, London, E. C. 2

tioned in order to show details of construction, quality of workmanship and improved features of Hughes valves and fittings, tubing head, adjustable flow beans, etc. Hughes valves and fittings have been used throughout the oil fields for years and operators are familiar with their performance.

▪ *Plunger Lift*

A working model of the Hughes plunger lift is exhibited showing just how this equipment functions in producing oil from wells, using only the energy of the gas associated with the oil, or supplying additional gas where required. This new method of lifting oil was devised in an attempt to avoid the excessive maintenance expense resulting from the high pressures, close fits, and severe alternating stress encountered in the operation of deep well sucker rod pumps. The equipment consists essentially of a string of special smooth bore tubing in which an all metal plunger travels the entire distance from top to bottom of the tubing and back to the top each stroke. This tubing is supported from a flow head at the surface adapted to receive the slug of oil lifted by the plunger and direct it to the flow lines, and is fitted at the lower end with a footpiece to stop the plunger and close the plunger valve at the end of the down stroke. The plunger is a rather loose fit in the tubing and is "free," that is, falls by gravity alone, and is raised by gas pressure without the use of sucker rods or cable. The tubing does not support the weight of the oil lifted but hangs under its own dead weight, the oil carried out each stroke being supported by gas pressure. The plunger does not lift a column of oil extending the full length of the tubing, but produces the fluid in short heads.



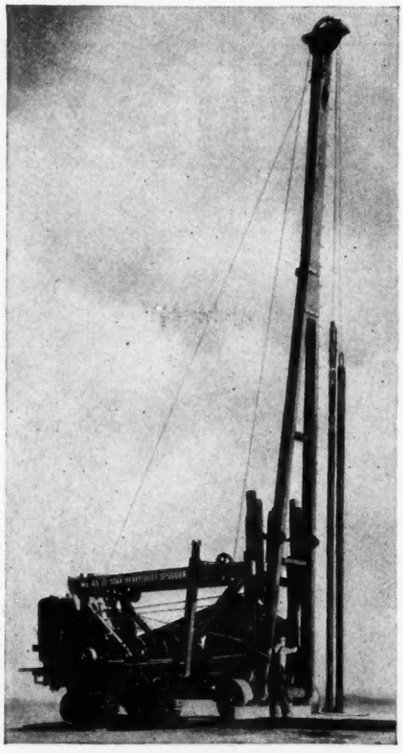
Plunger

Assembly Drawing Showing Hughes Plunger Lift

The Star Drilling Machine Company

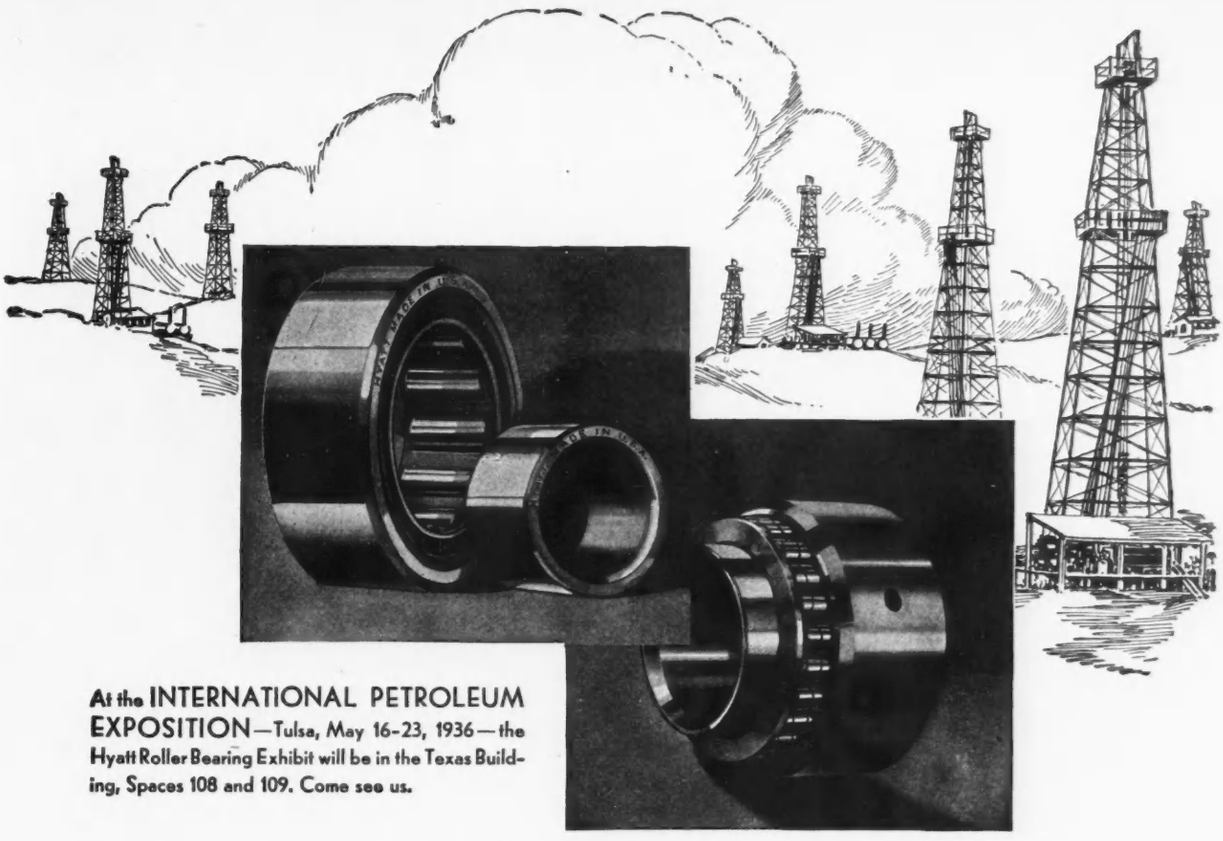
▪ *Star Drilling Machines*

The Star Drilling Machine Company, Akron, Ohio, is exhibiting four units which demonstrate special features of its heavy duty spudders:



Star Drilling Machine Company's Heavy Duty Spudder

(1) The traveling spudded sheave, a Star patent (1941894), operating in miniature with crown sheave and reel to demonstrate how this feature provides spooling of the drilling line. (2) The Star air-cooled brake wheel, which is said to solve the brake problem. It is built of semi-steel allow yet will not cut the brake lining, and is of such size and capacity as to insure efficient and economical performance. (3) New triple-clearance clutch for which is claimed complete freedom from drag and overheating, because uniform clearance is automatically fixed and remains fixed throughout the life of the clutch, not being dependent on any hand adjustment. All parts of this clutch are secured by castellated nuts and cotter pins, thus they can not become loose and fall off; also all parts are renewable without dismantling the countershaft. (4) Chain-driven sand reel, which provides a sturdy, positive drive in all kinds of weather. It is mounted on SKF sef-aligning ball bearings and uses an alloy air-cooled brake with lined band.



At the INTERNATIONAL PETROLEUM EXPOSITION—Tulsa, May 16-23, 1936—the Hyatt Roller Bearing Exhibit will be in the Texas Building, Spaces 108 and 109. Come see us.

HYATTS are EVERYWHERE

Because these better bearings serve so well and so long in oil field equipment it is to be expected that you will find them everywhere.

In all types of drilling equipment—in pumping units of every description—in haulage service—all over the lot these dependable bearings carry on with the minimum of attention.

Most builders of equipment include Hyatt Roller Bearings as a standard part of their production for your protection. But to play safe before you buy, it pays to look for Hyatts in the specifications—then you know it's right from the start. Hyatt Roller Bearing Company, Newark, Detroit, Chicago, Pittsburgh, San Francisco.

HYATT

ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS

FIELD EQUIPMENT Featured at International Petroleum Exposition

Wico Electric Company

▪ *Magnetos*

Wico Electric Company, Springfield, Massachusetts, has on display two recently developed types of magnetos.

Type AP magneto shown at the booth features a balanced electrical circuit, fixed coil and interrupter, rotating magnets and a rotating cam. It has a circulating lubricating system employing an oil filter and needle bearings. The type AP is designed for engines up to six cylinders with incoming spark of high intensity with impulse coupling and with eccentric adjustment of contact points.

The series A magneto shown at the Wico booth is similar in most respects to type AP, but is designed for use on engines of one, two and four cylinders. The series A utilizes die castings where practical.

Mine Safety Appliances Company

Mine Safety Appliances Company, Pittsburgh, Pennsylvania, exhibits a group of safety appliances, including masks, gas and sulphide detectors, respirators, skull guards and first aid equipment.

▪ *Gas Mask*

One of the items on display is the Burrell cannister type gas mask officially approved by the government for protection

Burrell Gas Mask

against poisonous industrial gases. It requires only that there be sufficient oxygen present to support life and is equipped with an automatic timer, and the Kops-type face piece.

▪ *Hydrogen Sulphide Detector*

The hydrogen sulphide detector provides a simple method of analyzing atmospheres. It is hand operated and, according to the Mine Safety Appliances Company, detects the amount of hydrogen sulphide in the air in amounts ranging from .0025 to .04 percent, giving a reading in less than a minute.

MSA Hydrogen Sulphide Detector

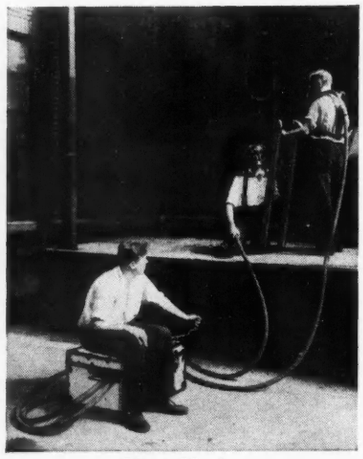
▪ *Combustible Gas Indicator*

Another item on display is a combustible gas indicator, a direct-reading, self-contained instrument that tests atmospheres for explosibility. It is compact, light in weight and easily operated. It is said to be suitable, with individual calibrations, for testing for practically all flammable gases and vapors, including hydrogen and acetylene.

Combustible Gas Indicator

▪ *Hose Masks*

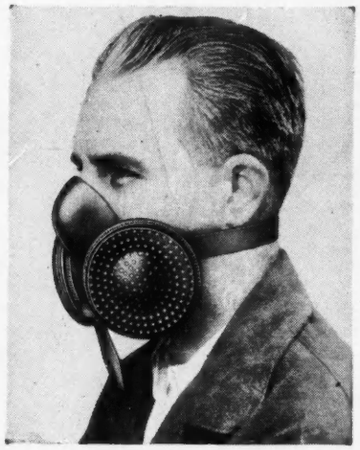
The MSA combination hose mask on exhibit is said to be officially approved by U. S. Bureau of Mines and American Gas Association, A large capacity hand-operated blower furnishes one or two users with cool, fresh air through as much as 150 feet of hose, permitting them to work in gaseous or oxygen deficient atmosphere.



Hose Masks

▪ *Respirators*

MSA exhibits two types of respirators: a dust and mist respirator for protection against pneumoconiosis producing dusts and chromic acid mists, and a lead dust respirator. Both are approved by the Bureau of Mines and combine protective



MSA Comfo-Respirator

efficiency with low breathing resistance. They are designed to eliminate interference with goggles, head protectors, and working freedom.

▪ *"Skullgards"*

Skull guards shown at the booth are described as being highly fracture resistant and durable, of material that will not

MSA Skull Guard

soften from contact with oil or perspiration, and that it is a non-conductor of electricity. In addition, they are light in weight and cool, and are made in eight sizes.

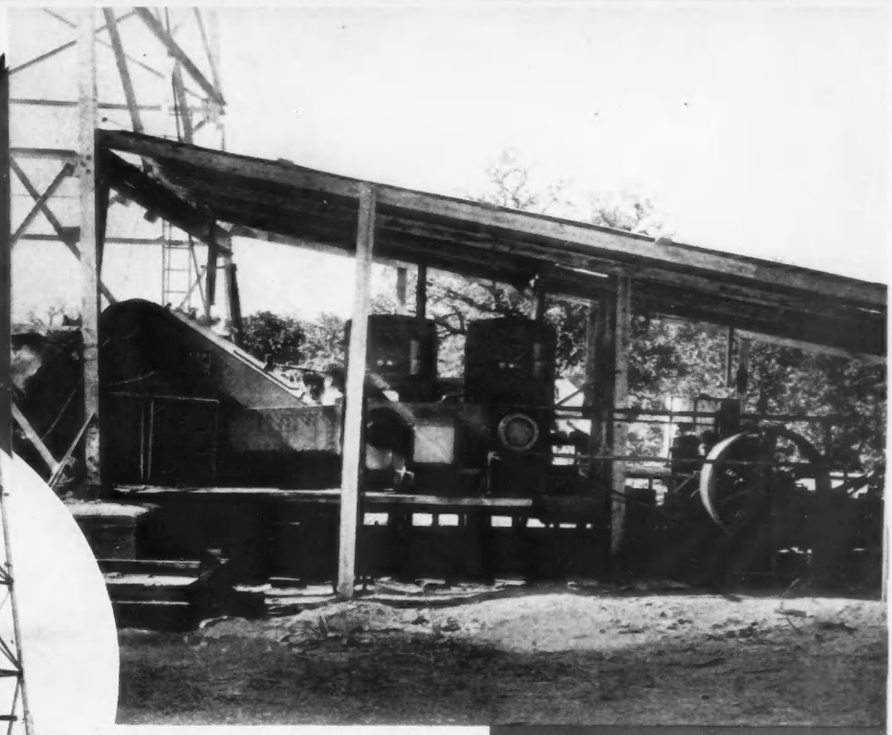
▪ *Oxygen Breathing Apparatus*

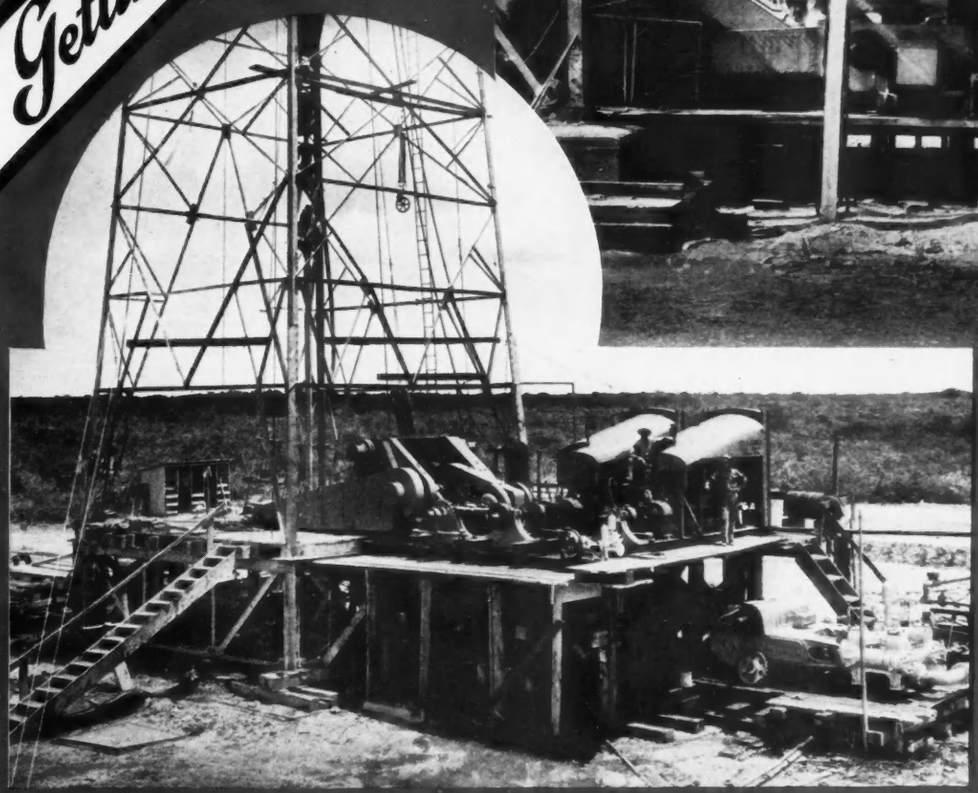
The oxygen breathing apparatus shown at the booth is available in two-hour and half-hour types. Each is a self-contained,

Oxygen Breather

THESE PORTABLE RIGS

THAT ARE *Getting the Job Done*





Model 876, for 5000-ft. drilling, consists of force feed lubricated drawworks, two engines compounded through enclosed case, substructure and pump.

Model B-200, for 7500-ft. drilling, consists of 3-speed clutch, dual engines with compound drive, substructure and pump. Uses standard drawworks.

WILL BE ON EXHIBIT MAY 16-23 AT THE TULSA OIL SHOW

SEE THEM IN OPERATION

PORTABLE POWER PORTABLE RIG CO. ECONOMY **RIG CO. INC.**

BRANCHES: Dallas—Longview—Tulsa

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EXPORT: 30 Rockefeller Plaza, N. Y. C.

FIELD EQUIPMENT Featured at International Petroleum Exposition

compact, lung-controlled unit, complete with oxygen bottle and refillable generator containing substance to absorb the carbon dioxide given off by the wearer. The half-hour unit weighs 13¼ pounds and is carried on the wearer's chest and stomach. The larger unit is carried on the back.

▪ *Inhalator*

The inhalator shown is a resuscitation device often used for victims of gas asphyxia and electric shock. It is designed

Inhalator

to be used in connection with the Schaefer method of artificial respiration. It supplies the victim with a mixture of carbon dioxide and oxygen to ventilate and stimulate the lungs.

▪ *First Aid Equipment*

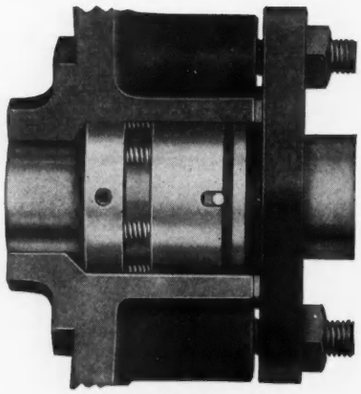
In addition to the above equipment, several sizes of first aid kits are shown at the booth. Fillings for these can be varied to suit individual requirements. The kits are packed in water and dust-proof cases for field use, and in cases not water-proof for inside use.

MSA First Aid Kit

Durametallic Corporation

▪ *Pump Seal*

The Durametallic Corporation of Kalamazoo, Michigan, is exhibiting its improved seal called Dura Seal used to pack centrifugal and rotary pumps and compressors working gritty and/or corrosive liquids and gasses. Excellent service records have been made on difficult conditions such as propane, butane, Winkler crude oil, gritty crudes, fuming sulphuric acid, acid sludge, freon, caustic, doctor, and many others. Since first shown at Tulsa in 1934, its range of efficiency has been increased to include pressures as high as 650 pounds with a 3600 RPM.



Durametallic Dura Seal

The Durametallic Corporation also is showing a distinct improvement in flexible metallic packing which provides increased lubrication embodied in the packing spiral and rings has been perfected in the past year. The display discloses this feature in graphic style.

Crouse-Hinds Company

Crouse-Hinds, Syracuse, New York, exhibits at the International Petroleum Exposition at Tulsa, a line of electrical appliances.

▪ *Lighting Fixtures*

Lighting Fixture Condulet

The EV series of fixtures displayed are designed to keep any explosion taking place within the fixture from communicating with surrounding atmosphere. Pigtail leads are provided for connection to the circuit wires, and a threaded cover gives access to the wiring compartment for making and inspecting the connections. Openings are sealed or provided with threaded joints. This type of fixture is available for pendent mounting or for mounting close to the ceiling.

▪ *Hand Lamps*

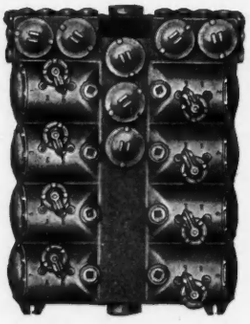
Type EVH explosion-proof and dust-tight hand lamp shown by Crouse-Hinds

Hand Lamps

has a moulded rubber handle, which provides a comfortable grip for the hand. A third terminal is provided for connection to a third wire in the cord for grounding all non-current-carrying metal parts. The globe is mounted in a metal ring by a special process. In case of breakage of the globe the entire globe assembly has to be replaced.

▪ *Panel Board*

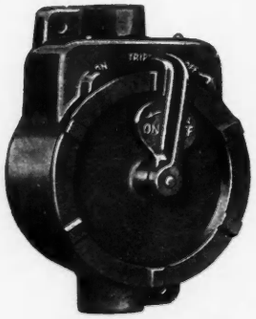
Also on display is an explosion- and dust-proof panel board consisting of a wired assembly of circuit breakers in an explosion-proof housing. A separate com-



Panel Board

partment is provided for each breaker. Wiring connections are made to main and branch circuit terminal blocks, mounted in separate T-shape compartments. Main terminals are furnished with main lugs only. Wire terminals are accessible through openings provided with threaded covers. Operating mechanisms for the breakers indicate "off" or "on" by the handle position.

▪ *Condulets*



Crouse-Hinds Condulet

Type FI.B condulets exhibited are suitable for service entrance, feeder, or branch circuit protection, for lighting, appliance, and motor circuits; but are not recommended as a substitute for motor running protective devices.

An external handle operates the circuit breaker within the housing. When the circuit breaker has been tripped, the handle takes a position between "off" and "on," marked "tripped."

Holes are provided for a padlock so that the operating handle can be locked "off"

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or "on." Locking the handle "on" does not prevent tripping, but the breaker cannot be reset without removing the padlock.

▪ ***Secondary Breaker Condulets***

Type FLDC explosion-proof and dust-tight condulets are made for certain types of secondary breakers with interchangeable thermal elements, which provide for accurate protection of motors.

Type FLDC Condulet

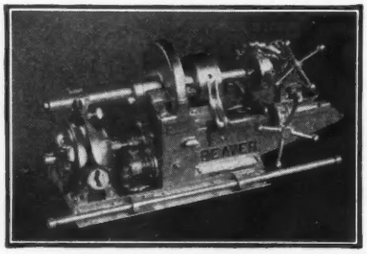
With one type breakers, the operating handle indicates by its position the position of the breaker handle as "on," "off," or "tripped." With another type of secondary breakers, the operating handle indicates "off" when the breaker is off, and "on" when the breaker is either on or tripped.

Beaver Pipe Tools, Inc.

▪ ***Pipe Tools***

Beaver Pipe Tools, Inc., Warren, Ohio, is exhibiting a full line of modernized pipe tools and machine. A feature of the exhibit is this company's Model A Beaver Special Pipe Machine, which is said to set a new standard in pipe cutting and threading machine design. It cuts and threads from ⅛- to 2-inch pipe in the machine and operates geared tools, by means of an extension drive shaft to cut and thread up to 12-inch pipe. The full range, therefore, becomes ⅛-inch to 12-inch pipe. In addition to cutting and threading pipe the machine bolts from ¼- to 2-inch, and rods. It is readily portable on large steel wheels 2 inches wide by 17-inch in diameter, and can be wheeled like a wheelbarrow. A ½-horsepower heavy-duty motor is used and this motor is amply powerful to drive geared tools up to 12-inch sizes. The cut off is said to be exceptionally fast—covering 2-inch pipe from 8 to 10 seconds.

In addition 35 new and 18 improved Beaver tools are exhibited. This new line includes a tool to meet every cutting and threading need and preference up to and including 12-inch pipe. The new line covers pipe threading tools, pipe cutting tools, tubing tools, reamers, threading oil, power drives, power adapters and pipe machines.

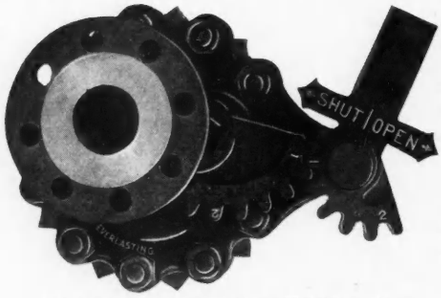


Beaver Model A Pipe Machine

Everlasting Valve Company

▪ ***Valves***

Everlasting Valve Company, Jersey City, New Jersey, is exhibiting its line of valves, featuring especially its Everlasting valve special for 600 pounds, for boiler blow off service. This valve follows in general the design of the Regular Everlasting Valve, extensively used in the power pressure fields. In this high-pressure valve the disc moves across and always in contact with the seat, and with a rotating movement to preserve and regrind the sealing faces of both the disc and the seat at each functioning of the valve. All parts have strength, it is said, more than ample for the service at actual working pressures of 600 pounds. The eccentric rack and pinion control produces great power and slow movement when the valve is just opening or just closing. The entire construction results in a sealing valve, next to the boiler, which stays tight, and is easy to operate.



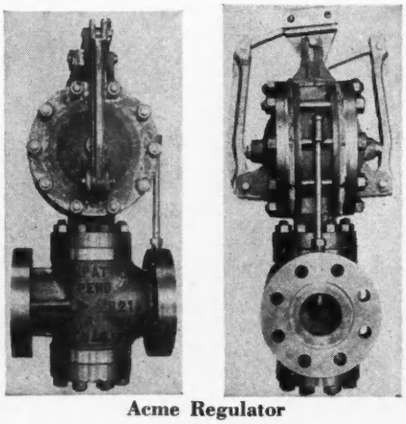
Everlasting Valve for 600 Pounds

Other types of Everlasting valve are shown, especially the new Regular Everlasting valve for gasoline, an efficient valve for terminals and loading rack installations. It corresponds in general design to the valve just described.

The Acme Regulator Company

▪ ***Regulators***

The Acme Regulator Company, Tulsa, has developed a new and original design of an extreme high pressure automatic pressure reducing valve, which it is exhibiting.



Acme Regulator

All castings are of extra heavy bronze with stainless steel valves and trimmings and capable of handling the highest of known rock pressures to a downstream range of from 100 to 500 pounds, without change of diaphragm head. A newly patented valve offers pressure balance with a one-point closure and combines a positive shut-off with remarkable anti-freeze qualities.

The duplex diaphragms are set in a vertical position, which offer many advantages.

The internal construction is so designed that all working parts may be easily removed through bottom flange, for replacements and repairs or capacity changes—without disturbing line setting.

Outside adjustable chokes built integral in downstream neck provides the excessive pressure drop in successive expansion stages across the unit to final expansion in larger area of line carrier.

The Garlock Packing Company

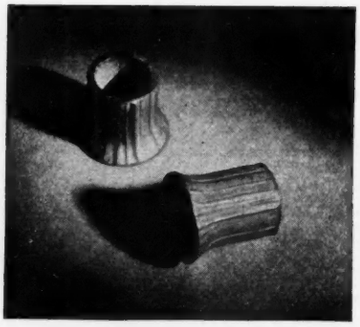
▪ ***Packing***

The Garlock Packing Company, Palmyra, New York, is exhibiting a working model of a cylinder packing assembly including bronze wearing rings of special design mounted in conjunction with conventional type piston rings. This assembly is particularly suitable for oil field pumping engines. Exhibit also includes compressor and gas engine rod metal packings; oil scraper rings; polished rod rubber rings; slush pump packings; asbestos sheet packing (Garlock 7021); oil seals (Garlock "Klozures"); industrial brake lining; rubber transmission belt; Garlock Chevron packing.

Electro Metallurgical Company

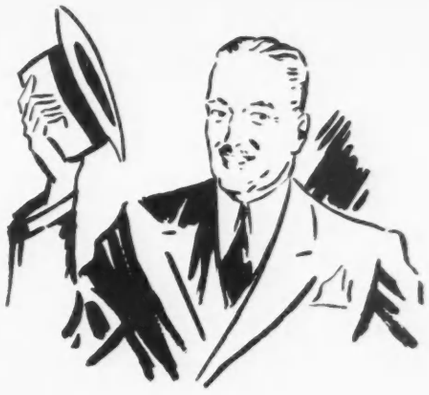
▪ ***Stainless Steel***

Electro Metallurgical Company, a unit of the Union Carbide Company, New York, N. Y., is exhibiting stainless steel tubing. Steels containing 18 percent chromium and 8 percent nickel are used in refining wherever severe service conditions exist. Oxwelded stainless steel tubing is corrosion resistant at elevated temperatures and is said to be unusually tough. Tests on this tubing show that the welds stand the expansion as well as steel.

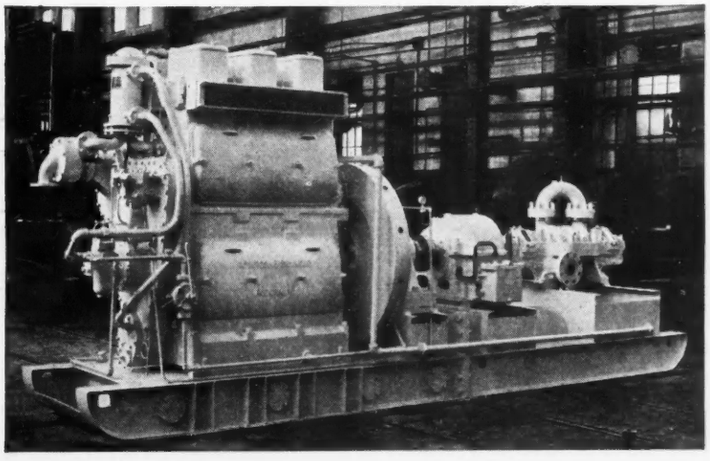


Electro Metallurgical Stainless Steel

HATS OFF TO BRANCH PIPE LINE PUMPING PROGRESS



A centrifugal pump of 12,500 gallons per day capacity . . . at 400 pounds discharge pressure . . . driven through a speed increaser . . . by a 3 cyl, 150 bhp McIntosh & Seymour Diesel Engine at 700 rpm . . . will use 200 gallons of fuel oil per day. With liberal allowance for lubrication, supplies, and maintenance this M&S engine will operate at 30 cents per hour—equivalent of .0027 cents of purchased current . . . For main line, gathering line, or refinery pumping, investigate the records of McIntosh & Seymour Diesel Engines . . . more than 224 units, 93,000 hp, in Oil Field service.



50 years of engine building experience ... 22 years devoted to Diesel Engines EXCLUSIVELY

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McINTOSH & SEYMOUR CORPORATION

DIVISION OF AMERICAN LOCOMOTIVE COMPANY

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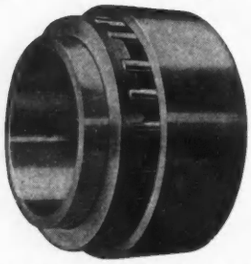
HOUSTON, TEXAS, Esperson Bldg. KANSAS CITY, MO., Commerce Trust Bldg. SAN FRANCISCO, CAL., Bourn Bldg.

FIELD EQUIPMENT Featured at International Petroleum Exposition

American Roller Bearings Company

▪ ***Roller Bearings***

American Roller Bearing Company, Pittsburgh, is exhibiting its standard line of heavy-duty roller bearings that are used in crown and traveling blocks, drawworks, winches, swivels and other kinds of oil field drilling and pumping equipment. The steel used in these bearings is a special alloy that when heat-treated has a high tensile strength and hardness to resist wear. A complete American bearing consists of three separate parts—the inner race or sleeve, outer race or casing, and cage.



American Roller Bearing

The sleeve is fitted to the shaft. The casing is put into the housing bore under a light press fit. These parts can be laid aside until wanted for general assembly of the machine in which they are used.

Templeton, Kenly & Co.

▪ ***Pull Rod Jack***

Templeton, Kenly & Company, Chicago, while showing a complete line of jacks for all general oil field purposes, is featuring its exhibit with a recently perfected "Simplex" pull rod jack, design of which involves double chain construction with the central rack bar pull and large gripping area of slips. This new jack, known as "Simplex No. 436" appears easily set up. In function, the equalized pull on the chains brings the pull rods together in a straight line. Capacity of the jack is seven tons.

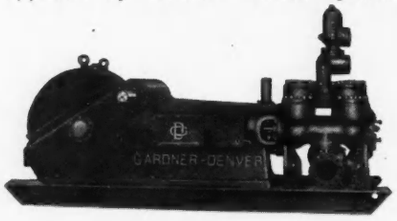
In addition to the above feature, Templeton, Kenly & Company is showing No. 310 oil field emergency jack in continual operation, a small motor being used to accomplish the desired effect.

"Simplex" No. 436 Pull Rod Jack

Gardner-Denver Company

▪ ***Pumps and Engines***

Gardner-Denver Company, Quincy, Illinois, exhibits in conjunction with Continental Supply Company, a 7¼-inch by 10-inch "FO" power pump, a 7¼-inch by 14-inch "FXK" power pump, a 7¾-inch by 16-inch "FXQ" power pump, a 14-inch by 7¾-inch by 18-inch steam mud pump, and a horizontal twin drilling engine, piston valve type, 12 inches by 12 inches.



Gardner-Denver Power Pump

The three sizes of power pumps have been improved and renovated for present day service. Continuous herringbone gearing replacing spur type gears. The eccentrics are integral with the main gear obviating the necessity of driving pins as used on previous design. The frame has been streamlined and materially strengthened. A double partition has been incorporated to prevent mud from entering the power end. The power end is proof against mud working along the piston rods and entering at the oil stop head as large diameter neck on crosshead and baffles prevent this. Renewal and adjustment of piston rods is accomplished without disturbing power end. Special alloys and oversize diameter main and jackshafts are used. Hyatt bearings on jackshaft and double row Timken bearings on the main shaft are oversize for this service. Fluid ends are of special alloy high tensile iron and have been materially improved by increasing the size of valves and all passages leading to and from the valves.

Gardner-Denver Steam Mud Pump

The 18-inch stroke steam pump is a recent addition to our line and incorporates the largest improvement in this class of machinery.

The 12 by 12 Standard Drilling engine, with the exception of several minor improvements, is the same.

The 7¼ by 14 FXK power pump is displayed with glass enclosures covering principal openings in crankcase so that the major operating parts may be observed under actual working and lubricating conditions. All other pumps and the drilling engine will be still exhibits.

The 7¼ by 14 power pump will not be operating under actual conditions. It will be merely turning over to demonstrate the lubrication principle.

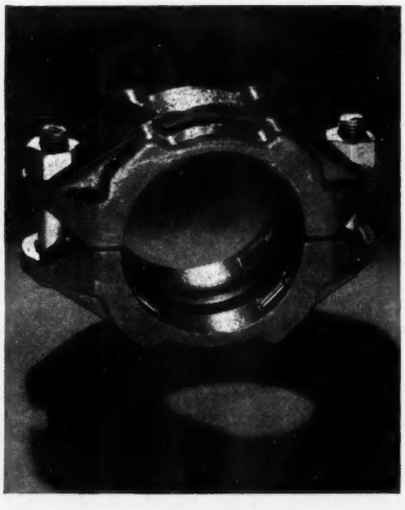
Gustin-Bacon Manufacturing Company

▪ ***Rolagrip Pipe Coupling***

The Rolagrip pipe coupling for plain end pipes is being shown by Gustin-Bacon Manufacturing Company, Kansas City. It affords a simple means for joining plain end pipe without special preparation.

The pipe is firmly gripped by the ribbed rollers which embed themselves in the faces of the pipe and recesses of the coupling housing. The recesses within which the rollers operate are so proportioned to give play to the normal forces of expansion and contraction, and to permit of maximum angular deflection. When, however, the desirable limits of pipe movement are reached, the gripping rollers by greater constriction of the recesses are caused to oppose separation of the pipe ends. Likewise the total pipe line movement cannot concentrate at one coupling but is distributed proportionately to each coupling in the line.

The Rolagrip consists of only three parts to be assembled with only two bolts. No special tools are required for its application. Special preparation or processing of the pipe ends is eliminated. Specially trained men are not required for the making of Rolagrip connections.

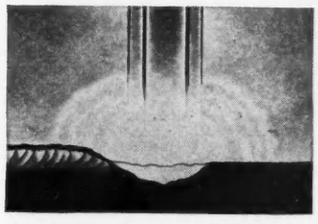


Gustin-Bacon "Rolagrip"

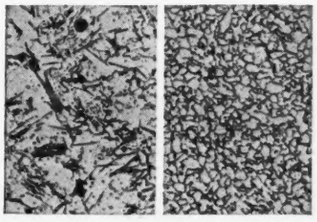
"Are your welds as STRONG as your claims? I'm from Missouri, Lad!"

Photo and data courtesy of The Ohio Fuel Gas Company, Columbus, Ohio

Technically Speaking



In welding with the Lincoln shielded arc, fusion takes place within a protective gaseous enclosure. The elements of the air cannot contact the molten metal; hence oxides and nitrides, which embrittle and weaken the usual weld, are excluded. The weld deposit is pure, homogeneous and in most cases of physical qualities superior to those of mild rolled steel.



These photomicrographs (enlargement, 100 diameters) show the grain structures of two welds. On the left is an ordinary weld; note the "nitride needles" and oxide pores. Contrast this to the weld on the right, made by the Lincoln shielded arc. Fine-grained welds like this are extremely strong, ductile and impervious to corrosion.

"Take a user's word for it, Pop! Here, EVERY ONE of 35 tests showed

'Shield-Arc' WELDS STRONGER THAN THE PIPE"

"Specimens of 20-inch, *'Shield-Arc'* welded pipe were crumpled by loads of 200,000 lbs.; the dents were then 'ironed out' by internal hydrostatic pressures of as high as 1820 lbs. per sq. in., causing 'blow-outs' in the pipe metal. 35 weld coupons from the various specimens were pulled apart in the laboratory. In every case, rupture took place outside of the weld. Invariably the results were tabulated, 'excellent,' '100%+.' The welds exceeded the user's requirements!

"When pipe joints like these can be produced so consistently . . . joints that are forever leakproof and more resistant to corrosion than the pipe itself . . . joints that *cost less* to make—is it any wonder that more and more *engineers are specifying 'Shield-Arc' Welding?* . . . Mail the coupon for valuable data . . . it's FREE!" THE LINCOLN ELECTRIC COMPANY, Department L -250, Cleveland, Ohio. Largest Manufacturers of Arc Welding Equipment in the World.

THE LINCOLN ELECTRIC CO.
Dept. L -250, Cleveland, Ohio

Please send me the following: ☐ "The Shielded Arc." ☐ A Guide to Lower Welding Costs. ☐ Data on *"SHIELD-ARC," the Complete Welder.*

Firm .....

Name .....

Position .....

Address .....

City .....

State .....

"SHIELD-ARC"

THE ONLY *complete* WELDER

FIELD EQUIPMENT Featured at International Petroleum Exposition

Walter Kidde & Company, Inc.

▪ ***"LUX" Portables***

Visitors at the booth of Walter Kidde & Company, Inc., are shown a complete line of Lux (carbon dioxide) portable extinguishers, a built-in Lux system suitable

Lux Extinguisher

for many refining hazards, and the new Kiddefoam generators, ejectors, and powders.

A special is the Lux 50-pound wheeled unit (illustrated). Within the past month the price of this unit has been reduced, so that today Model 50, a 40-gallon foam unit for oil fire protection and having the added advantage of Underwriters rating on electrical fires, is available at a lower price.

The Timken Roller Bearing Company

▪ ***Bearings***

Typical applications of Timken bearings to certain oil field equipment are illustrated by a series of illuminated phantom transparencies in the booth of The Timken Roller Bearing Company, Canton, Ohio. These show how Timken bearings are applied in draw works, rotary drilling rigs, steam and gas engines, swivels, compressors and geared pumping powers, and while they only show a few of the many applications they serve to illustrate the practically universal application of tapered roller bearings in the oil industry.

In the booth also are displayed samples of the various types and sizes of Timken bearings used in the oil industry and a special display of the new Timken mirror finish. This new finish is so smooth that it actually functions as a mirror, and is the result of five years of experimental and development work requiring a new manufacturing technique and special equipment. To demonstrate the extreme smoothness of this finish requires an instrument capable of measuring in terms of a millionth of an inch. The practical result of applying mirror finish to bearings as used in the oil industry is longer life, improved lubrication, increased smoothness in operation and decreased maintenance.

The D. T. Williams Valve Company

▪ ***Valves***

The D. T. Williams Valve Company, Cincinnati, Ohio, is exhibiting a complete line of bronze and iron gate valves, regrinding globe and check valves, stop cocks, water gauges, lubricators, oil and grease cups. Included in the display are samples of Reverso and Iroverso valves, both having reversible and renewable nickel-alloy discs and seats. The company also is showing a number of recent editions of its line consisting of iron body nickel-alloy disc and seat valves for 250 pounds working pressure, also a bronze valve for 350 pounds working pressure, as well as many very heavy types of bronze gate valves for the same pressure.

Leeds & Northrup Company

▪ ***Controls***

Leeds & Northrup Company, Philadelphia, is exhibiting its line of control instruments and regulatory equipment for use in refining processes. The Micromax

Micromax Temperature Controller

temperature control is shown, which automatically and simply proportions input to demand. The Centrimax Flowmeter is also exhibited. This instrument operates on a new principle said to substantially lower the limit of error in the measurement of total flow. There is the Micromax Carbon Dioxide equipment which is said to make possible exceptionally fast recording of changes in percent of carbon dioxide and requires for its maintenance a minimum of time and materials. Also, there is the Micromax pressure equipment which transmits pressure measurements over lead wires or telephone pair to an indicating and recording instrument located wherever convenient.

In addition to these developments designed to fill definite needs in refining processes, the latest forms of other standard instruments are shown in operation.

American Sand-Banum Company

▪ ***Boiler Scale Eliminator***

American Sand-Banum Company, New York City, is exhibiting its pure colloidal concentrate for boiler scale elimination and control. This product does not con-

tain any ammonia, graphite, water-glass, soda, lye, acid, potash, chloride, etc., and does not react in a chemical sense with the feed water. Sand-Banum is absolutely harmless to all equipment and persons. It is packaged 16 ounces to a can, and each can is sufficient to treat a 250-horsepower boiler for one month. Sand-Banum does not break old scale down in large chunks, but produces a spongy disintegration (colloidal dispersion) of the scale and gradually dissolves whatever formation has accumulated. And in the presence of Sand-Banum, new scale cannot be formed because this preparation forms an invisable layer of colloids enveloping every particle of scale-forming ingredients. This film, on every grain of scale matter, prevents crystallization, and by keeping these substances in suspension permits of their being removed from the boiler in the course of the regular blow-off. It is applied only one to four times a month; prevents priming and foaming, does not carry over with the steam and makes unnecessary the practice of water analyses and chemical treatment.

▪ ***Blue Seal Emulsion***

Also on exhibit is the Blue Seal Emulsion which is a specific emulsified adaptation of the "regular" product, for the prevention and removal of scale and corrosion in water cooling systems. It likewise is guaranteed absolutely harmless and comes ready to use in approximately two-pound cans. Its use insures the maximum efficient operation of internal combustion engines, gas compressors, condensers, etc. By keeping surfaces clean, it not only prevents the metal of cylinder walls from overheating, which would cause distortion and decreased strength but it also keeps the walls at a temperature sufficiently low so that proper lubrication can be maintained.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Reed Roller Bit Company

▪ ***Reed Roller Bearing Rock Bits***

Reed Roller Bearing Rock Bit

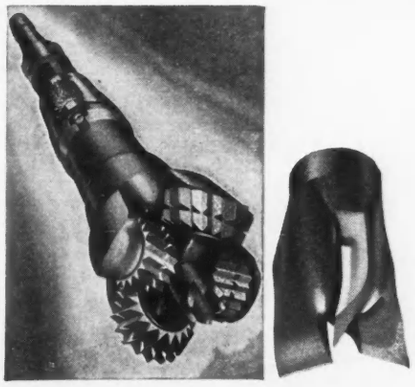
Among the products on display by Reed Roller Bit Company, Houston, is its line of roller bearing rock bits. These bits have a four point support on four direct bearings. Rugged construction insures endurance and safety. A sturdy bridge of drop-forged heat-treated alloy steel, carries the two side cutters and supports the cross pin, which carries the cross cutters. The assembly is welded at all four supports.

The Reed sport model roller bearing rock bit is designed to drill a straight hole speedily with light drilling weights in semi-hard or broken formations, yet is durable and efficient for drilling with heavy drilling weights in hard formations.

Cutter layouts for different formations: the Reed tough formation bit is used for drilling hard limestones; sand rock; and hard shales; the Reed hard rock bit is used for cutting hard, well cemented sandstones; very hard limestones, and, when equipped with "D" Type Teeth, for granite, basalt, etc.; the Reed multi-duty bit is a general purpose bit especially adapted to drilling broken formations, such as alternate hard and soft layers or strata; semi-hard shales; limestones; chalks, etc.

▪ ***Reed Barrett-Robishaw Drilling Bit With Wire Line Retractable Core Barrel***

This device takes any number of cores, at any depth, without removing the drill pipe. Its advantages are said to be: 1. takes a core at 5000 feet in from 40 to 60 minutes; 2. eliminates many round trips of the drill pipe; 3. reduces drilling line, brake block, and rig maintenance costs; 4. decreases tendency to pass up important formation changes because of the ease with which cores can be taken; 5. keeps the walls of the hole in better condition because the drill pipe is not removed for each core; 6, especially adapted to coring heaving or unconsolidated formations and gas bearing formations where blowouts threaten when the drill pipe is removed; 7. simplicity of construction and ease of operation eliminates necessity of special training to obtain successful results; 8. Compactness and light weight of outfit makes possible usage in most remote locations; 9. rotation of drill pipe may be maintained while pulling the core barrel or center bit and circulation can be maintained while pulling the core barrel or center bit with the use of a circulating head and stuffing box; 10. well surveying equipment can be run on the same wire line as used for core barrel; 11. every part that is susceptible to wear or breakage can be repaired or replaced; 12. hard formation and soft formation heads are interchangeable.



Reed Barrett-Robishaw Wire Line Drilling-Coring Bit with hard formation head on 6-contact Reamer

Reed Barrett-Robishaw soft formation head interchangeable with hard formation head

▪ ***Reed Retractable Wire Line Collapsible Blade Drilling Bit and Core Barrel***

This bit is especially adapted for drilling and coring heaving or unconsolidated and gas bearing formations. Its advantages are said to be: 1. dull drilling blades removed through the drill pipe or casing; 2. cores taken without removing the drill pipe or casing; 3. reduces drilling line and rig maintenance costs; 4. ideal where drag bit or fish tail drilling predominates; 5. especially adapted for drilling and coring in heaving or unconsolidated formations and gas bearing formations where blowouts threaten when the drill pipe is removed; 6. certain, safe, and economical for drilling through and setting casing in heaving shale; 7. rotation and circulation may be maintained while removing blade carrier or core barrel; 8. can be used with full-hole tool joints or casing; 9. every part that is susceptible to wear can be repaired or replaced; 10. well surveying equipment can be run on the same wire line as that used for removing drilling blades or core barrel.

Reed Retractible Wire Line Collapsible Blade Drilling Bit and Core Barrel

Reed Reamer Type 38

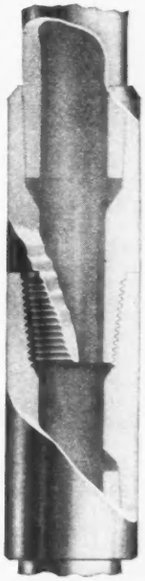
▪ ***Reed Reamers***

Reed reamers are used for straight hole drilling, especially for deep drilling; and also for keeping the hole to full gauge and for keeping the hole true and in good condition.

Reed reamers are forged from chrome nickel, alloy steel, carefully machined, heat treated in electrically operated, automatically controlled furnaces and threaded to suit the user's individual requirements. The bearing blocks holding the reamer cutter assembly, are specially case hardened and embedded into the tough strong reamer body by welding. Simple, unified construction give dependability and efficiency.

▪ ***A.P.I. Full-Hole Tool Joints***

These tool joints have twice the area through the fluid passage as regular tool joints. These advantages of such construction is increased drilling speeds due to a more rapid removal of formation cuttings, lower mud pump upkeep cost by elimination of back pressure caused by restriction of flow, decreased drilling hazards because the freer mud circulation assists in keeping drill stem from getting stuck. The joints facilitate running of surveying instrument and Reed wire line core drills within the drill stem. Reed full hole tool joints are made to fit both regular internal upset and external upset A. P. I. drill pipe. When used with external upset drill pipe a straight hole bore extends through the drill pipe and tool joint.

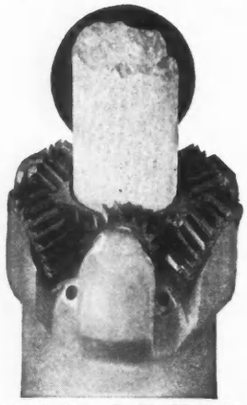


Reed Full Hole Tool Joints

Tool joints differing

in design from the regular A. P. I. and the A. P. I. full-hole tool joints, such as external flush, internal flush, double-grip, shrunk-weld, etc., are manufactured by Reed Roller Bit Company with care and precision that is used in Reed regular A. P. I. and Reed full-hole tool joints.

▪ *Reed Model "B" Core Drills*



Reed Core Drill, Model B

Reed Model "B" hard and soft formation core drills are designed with simplicity in construction and for the obtaining of large and long cores resulting in a high percentage of core recovery. The simplified construction provides for a satisfactory and economical use.

Hard and soft formation cutter heads with a selection of most suitable core catchers are interchangeable on the same barrel. Likewise, a selection of inner barrel valve assemblies and upper connections is provided. Upper connections furnished to customer's specifications.

Reed Model "B" improved core drills take cores close to the bottom of the hole and give large diameter and long holes in less time and at low cost.

Gearench Manufacturing Company

Gearench Manufacturing Company, Houston, is showing its full line of Petol and Titan tongs and wrenches.

▪ *Petol Tubing Tongs*

This tubing tong stabs on and pulls off. It has no hinged members to latch or unlatch. Jaws are always open and grip tubing automatically. A special cam lever lock permits the tool to back off the tubing without reversing the tongs. Three high-speed steel bits are used. Mechanically limited jaw closure prevents closure.

▪ *Petol Pipe Tongs*

Petol tubing tongs grip instantly and permit perfect ratcheting action. They are easily put on and removed. The single handle makes them light. The four edged hardened bits are easily turned or replaced. Made from high quality chrome-nickel steel.

▪ *Petol Chain Tongs*

This tong rests on top of the pipe to make the job easier on the operator. It ratchets perfectly and releases instantly when load is removed. The chain in making a complete wrap around the pipe develops a friction hold that reducts the bite necessary for the teeth inserts to take.

▪ *Petol Friction Tongs*

These are designed especially for holding and turning pipe that must be carefully protected. There are no bits or teeth inserts to mar the surface. A curved jaw of one-piece construction prevents spreading or loosening.

▪ *Petol Welding Tongs*

This is a double-acting tong for rolling pipe in either direction on welding jobs. A light, strong and extra long handle provides extra leverage. This friction-type tong has no teeth, ratchets perfectly in either direction and is reversible without removal from the pipe. Made throughout from chrome-nickel steel.

▪ *Petol Back-Up Tongs*

These tongs are used on drilling rigs. The handle and jaws are made integral to reduce weight and to increase strength and rigidity. Jaws may be fitted with different shaped replaceable steel teeth inserts to best suit job.

▪ *Petol Stabbing Tongs*

The Petol stabbing tong is a light, durable and convenient tool for the pipe liner to spin up small diameter pipe. Each tong will fit several sizes

Petol Stabbing Tongs

of pipe and will ratchet or turn pipe in either direction without removal. Tongs are easily applied and removed, and are made in two sizes.

▪ *Petol Fitting Tongs*

These are exceptionally strong for their size, and are made of highest quality chrome-nickel steel and furnished with heat-treated special chain. Hardened steel teeth inserts are easily removed for resharpening or replacement. The design permits the operator to use them in very close places on fitting work.

▪ *Flange Tongs*

The Petol flange tong is designed to ride on the flange without danger of slipping off. The pin that fits in the hole of the flange is made of chrome-vanadium steel, hardened and tempered, and is removed easily when replacement is necessary.

▪ *Petol Carrying Tongs*

These tongs have an extra large pivot bolt and large bearing area in both halves of the tong to eliminate possibility of bolt bending and producing excessive wear or failure when in use. When not in use the handles are made to fold together.

▪ *Petol Carrying Bars*

Like the Petrol carrying tongs, the carrying bars are light but strong and durable.

▪ *Petol Bull Tongs*

These are convenient for miscellaneous jobs. They are equipped with replaceable steel teeth inserts and proof-tested chains. A large loop in the end of handle enables rope or cable to be applied easily.

▪ *Make-Up Tongs and Post*

The Petol make-up tongs and make-up tongs post provide an efficient method for running in casing with a make and break rotary. The tongs are adjusted to permit a definite number of revolutions per minute. When the rotary is run beyond this speed limit the tongs automatically release the pipe but take hold again when the speed is lower. The post is designed to carry the weight of the tongs and permits them to move down as the casing threads make-up.

▪ *Break-out Tongs and Post*

The Petol break-out tongs and post are used on a rotary to break down drill pipe, and are made of the highest quality alloy steels and heat-treated to give maximum toughness and strength.

▪ *Petol Pipe Wrench*

This is a new style wrench for pipe work. It is self-adjusting and has no nuts to turn or jam. To apply, simply bump the upper jaw lightly on the pipe.

▪ *Titan Rod Hook Wrench*

This wrench is made in two styles, Type A and Type B. The former has a special shaped recess in the hook end to permit hammer action. Type B has a regular rectangular shaped slot in hook end.

▪ *Titan Pipe Tongs*

These are conventional "scissor-type" tongs. A special eccentric bolt permits adjustment to take care of wear.

▪ *Titan Chain Tongs*

These are of the same general design as conventional type chain tongs but may be equipped with Petol Type T safety links to insure more safety and effect economy in chain requirements.

▪ *Titan Tubing Tongs*

Titan tubing tongs have been designed to handle tubing jobs that do not require the high quality material and workmanship found in Petol tongs.

Franks Manufacturing Corporation

▪ *Well Servicing Winch*

Franks Manufacturing Corporation, Tulsa, has on exhibit its truck motor-driven well servicing winch that mounts upon any truck from 1½ to 10 tons. The winch is mounted securely on the truck directly behind the cab. It takes its power from the truck motor through a simple, compact but powerful power take-off, which is mounted on the truck transmission. The winch is so mounted that practically a full truck bed is left for payload. There is a lower center of gravity and less weight and better distribution on truck tires. A final drive friction clutch eliminates shock loads. It has lifted 26,000 pounds with a single line. No floor block is necessary in anchoring, as a horizontal telescoping boom hooks to any point on or inside of derrick or mast.

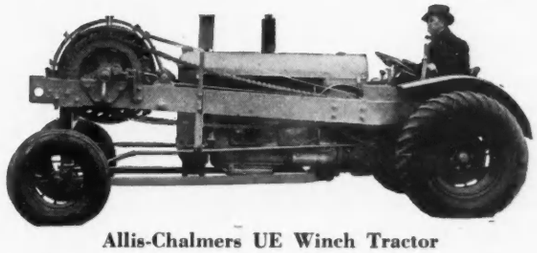
FIELD EQUIPMENT Featured at International Petroleum Exposition

Fred E. Cooper

Fred E. Cooper, Tulsa, Oklahoma, exhibits a complete line of Allis-Chalmers winch tractors in single and double drum models, skid winches in single and double drum models, gas and oil power units.

▪ *Winch Tractors*

Allis-Chalmers units shown by Fred E. Cooper are equipped with heavy duty tractor engines having removable cylinder sleeves, inserted valve seats and force feed lubrication. They are available with either 15 or 30 miles per hour road speed. They have eight line speeds, obtained through large, heavy duty tractor transmission, and are equipped with Cooper designed air cooled brakes.

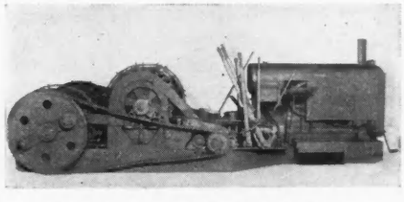


Allis-Chalmers UE Winch Tractor

Featured in the Cooper exhibit is the Allis-Chalmers UE winch tractor, powered with a four-cylinder engine which has a five-inch bore and 6½-inch stroke. The maximum line pull is 58,000 pounds. Line speeds on this model range from 49 to 1133 feet per minute. It has 34-inch brakes, with 34 inches between flanges. Drum capacity is 9800 feet of half-inch line. The machine has four forward speeds and one reverse.

The A-C UM winch tractor is a general utility tractor. It is powered with a four-cylinder engine having a bore of 4⅜ inches and a stroke of five inches, capable of exerting a line pull of 29,115 pounds, with line speeds the same as those of model UE. Drum capacity is 8435 feet of half-inch line.

Cooper exhibits four other winch tractors. The Allis-Chalmers model W winch, which has a 4-cylinder engine with a 4-inch bore and stroke, a line pull of 18,020 pounds, line speeds from 54 to 628 feet per minute, and a drum capacity for 5700 feet of half-inch line, is one of these. Another is the A-C winch tractor equipped with a telescope mast having an expanded length of 40 feet and being removable. The mast can be furnished with any tractor power unit handled by Cooper, who claims that cleaning out equipment can be installed and removed in five minutes.



Allis-Chalmers UE Double Drum Swid Winch

Another double drum winch tractor shown is for use with the UE or UM engines also. Using half-inch line and UE engine, the front drum capacity is 9800 feet, the rear drum capacity, 5350 feet. Equipped with the UM engine, the front drum capacity is 8435 feet and the rear drum capacity, 5350 feet.

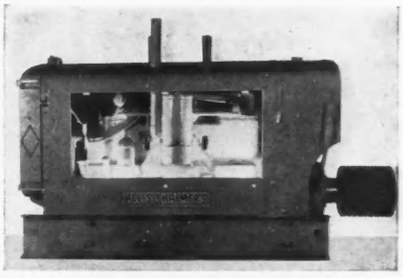
▪ *Skid Winches*

Combinations in double drum skid winches are included in the Cooper exhibit. One of these, which may be powered optionally with the UE or UM engines has three sizes of front drum capacities (for half-inch line): 20,700 feet, 14,000 feet and 10,500 feet; rear drum capacities, using half-inch line, are 8435 feet and 10,500 feet.

The model UE skid winch, not traveling under its own power but mounted on frame and cradle to facilitate transportation, is equipped with an Allis-Chalmers heavy duty tractor motor and is designed for use on deep wells. Its four-cylinder engine, with a bore of five inches and a stroke of 6½ inches, exerts a line pull of 58,000 pounds, with line speed varying from 49 to 1133 feet per minute. It can be furnished with three sizes of drums, capacities of which, using half-inch line, are: 20,700 feet, 14,000 feet, and 10,500 feet.

▪ *Power Units*

Cooper shows a number of Allis-Chalmers power units, featuring the model L-90.



Allis-Chalmers L-90 Power Unit

In addition to removable cylinder sleeves, inserted valve seats, and force feed lubrication, these units have rifle drilled connecting rods. The L-90 engine and the E-60 engine on display can be equipped with Diesel fuel pumps and injectors, or operated as gasoline engines. Their compression is 125 pounds, and they fire from a spark furnished by a high tension magneto. Model L-90 has six cylinders, a 5¼-inch bore and a 6½-inch stroke and operates at from 600 to 1050 r.p.m. The E-60 power unit has four cylinders and may be had in a five or 5¼-inch stroke. It operates at the same speeds as the L-90 engine.

Another power unit shown by Cooper is the Allis-Chalmers M-40, a four-cylinder job with a bore of 4⅜ inches and a stroke of five inches. It is a little faster than the heavier models, running at from 600 to 1400 r.p.m.

A new power unit will be shown—W-25, the smallest unit in the Allis-Chalmers line, yet containing all the features of the larger units.

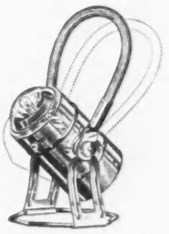
A low priced well servicing unit exhibited at the Cooper booth is the A-C Rumley OX skid winch, designed to pull 3500 feet of two-inch tubing with ease. Maximum line pull is 16,960 pounds and drum capacity is 6560 feet of half-inch line. Four line speeds range from 79 to 513 feet per minute.

Economy Electric Lantern Company

▪ *Lanterns*

Economy Electric Lantern Company, Inc., of Chicago, is displaying its full line of Ecolite safety hand lanterns. Included are several models approved by the Underwriters' Laboratories for use in hazardous locations, such as in the presence of gasoline vapors, etc.

The 44-USV Ecolite is designed to provide the ultimate in safety to meet portable light requirements of the oil industry. It is equipped with an octagonal spark-proof base, Underwriters' approved circuit breaking mechism to release the bulb from contact with the battery should the lens be broken, positive sliding switch free from all wires or soldered connections, and the exclusive pivot base feature which permits the user to direct a shaft of light to any location leaving both hands free for any operation at hand.



Ecolite Model 44-USV Lantern

Model 42-BM Ecolite, which is provided with lock and seals for both cover and lens, is approved by the U. S. Bureau of Mines. It is widely used on oil tankers and also by companies operating in the foreign fields. The C-300 Ecolite is a low priced model designed for all portable lighting purposes, excepting those where fire hazards are encountered.

Several new models developed by the company are on display. Among these is a powerful beam deep reflector lantern which is approved by the Underwriters' Laboratories, and two models of electric flashing flares.

Ecolite Model 42-BM

Ecolite Model C-300

FIELD EQUIPMENT Featured at International Petroleum Exposition

Garrison Engineering Corporation

▪ ***Fire Control Products***

Garrison Engineering Corporation is exhibiting its line of portable and wheeled engine fire extinguishers using the dry method of fire extinguishment approved by the Laboratories of the National Board of Fire Underwriters and the Laboratories of the Associated Factory Mutual Fire Insurance Companies, and other qualified agencies.

The Garrison Garfire Gun, the company's newest unit, is for speedy application on incipient fires. Weighs only 3½ pounds. Length is 16¼ inches, diameter 3½ inches. Sturdy metal construction, plated finish. Holds sufficient Garrison dry extinguishment, to put out any oil fire if applied at its incipiencv.

Garfire Extinguisher

Garrison Portable appliance No. 20 is said to provide an extinguishing capacity greater than that of ordinary types of portable extinguishers. Weight is 50 pounds, diameter 7⅜ inches, length 26 inches. Holds 20 pounds of Garrison dry extinguishment, which is expelled by Garrison pressure gas contained in a drawn steel cartridge, charged under pressure and autogenously sealed. Pressure is released by the turning of a valve, and is controlled by operator with automatic shut-off control nozzle.

Garrison wheeled engine No. 350W was specially designed for oil field use. Can be easily handled by two men. Weight is 450 pounds, width 32 inches, height 51 inches. Steel Roller-bearing wheels, 50 inches in diameter, with 8-inch width tires. Control valves and gauges. Seventy-five feet of ¾-inch hose. Automatic shut-off control nozzle. Compound tank holds 350 pounds of the Garrison dry extinguishment. Pressure gas cylinder has a capacity of 200 cubic feet, sufficient to completely empty the compound tank. The gas pressure remaining in the pressure cylinder after the engine has been used, is registered on a pressure gauge. An automatic reducing valve regulates the pressure admitted to the compound tank when in operation, so that a uniform steady effective stream is always secured. The pressure gas not only supplies the propelling medium, but, being carried to the fire with the Garrison dry compound, performs an extinguishing function. The operators are protected by the cool barrier of the dry compound in the form of a "cloud," and by the expanding fire-extinguishing gas under pressure, which blows away the flames, and permits close approach to the fire. The Garrison dry compound, when in contact with heat, releases a harmless inert oxygen-excluding gas which surrounds the area immediately surrounding the fire with a flame-smothering and cooling blanket. The more intense the fire, the greater is the extinguishing action. And as long as the heat condition exists the extinguishing effect will continue.

Mid-Continent Supply Company

▪ ***Cummins Diesel Engines***

Mid-Continent Supply Company's exhibit features the cold starting Diesel engines made by Cummins Engine Company. In addition to the engines displayed in the company's booth, two 200-horsepower Cummins Diesel engines are being used to power the Allis-Chalmers Manufacturing Company's mechanical drilling units exhibit, which are in operation.

The Cummins full Diesel engine is of medium speed and medium weight. It has only one metering pump for all cylinders, thus providing an equal charge of fuel to each cylinder. This provides for smooth operation. Gasification and preparation of fuel prior to injection makes combustion more continuous and complete. Through control means over the speed of injection during the injection period a continuous combustion pressure is provided.

These fuel handling features are said to result in superior engine performance.

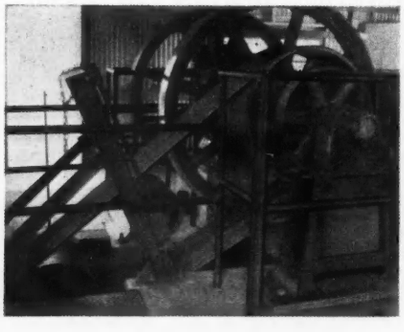
▪ ***Power Units***

Cummins power units for use any where power is needed also are on display. These are being used for pumping wells, generating current for lease pumping and lighting, for pipe line pumping, for gathering line pumping, water or compressor stations.

Dayton Rubber Manufacturing Company

▪ ***Cog-Belt Drives***

The Dayton Rubber Manufacturing Company, Dayton, Ohio, exhibits a complete line of Dayton cog-belt drives which are used on drilling rigs, pumping units, compressors, generators and sludge pumps, as well as auxiliary equipment both in the field and at the refinery.



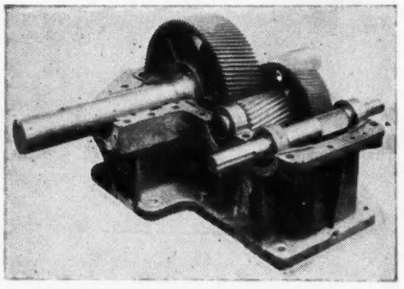
Typical Dayton cog-belt drive installations on oil field equipment

Foote Bros. Gear & Machine Corporation

▪ ***Gear Pumping Units***

Foote Bros. Gear & Machine Corporation, Chicago, is exhibiting types DO and SO of the IXL geared pumping units in the Frick-Reid building.

Those in attendance at the booth point out the following features of the Foote Bros. pumping drives: 1. symmetrical design around the center line of the slow speed gear space to equalize overhung loads and to prevent unequal strain on the case, bearings and gears; 2. internal shafting held to shortest possible lengths to reduce shaft deflection; 3. oil leak-proof retainer caps and dust and water shields; 4. heat treated, helical type gears; 5. ample capacity bearings with split bronze bushings and thrust plates on the low speed shaft; 6. a leveling plate on top of the case for aligning the unit; 7. a semi-steel case ribbed at points of stress; 8. the high speed shaft is extended equal lengths on both sides so hand brake and sheave may be interchanged without opening the case; 9. a quick acting, differential band brake with flywheel is mounted on the high speed shaft; 10. a positive splash lubricating system is used in conjunction with oil slinger and oil troughs to provide lubrication.

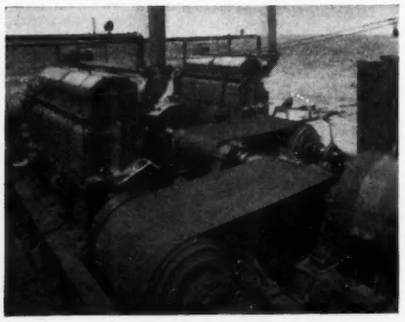


Foote Bros. Type DO Geared Pumping Unit

National Tube Company

▪ ***Tubular Goods***

National Tube Company, Pittsburgh, exhibiting with United States Steel Corporation, will show its complete line of tubular goods for the oil field, which includes casing, drill pipe, line pipe and tubing of all types.

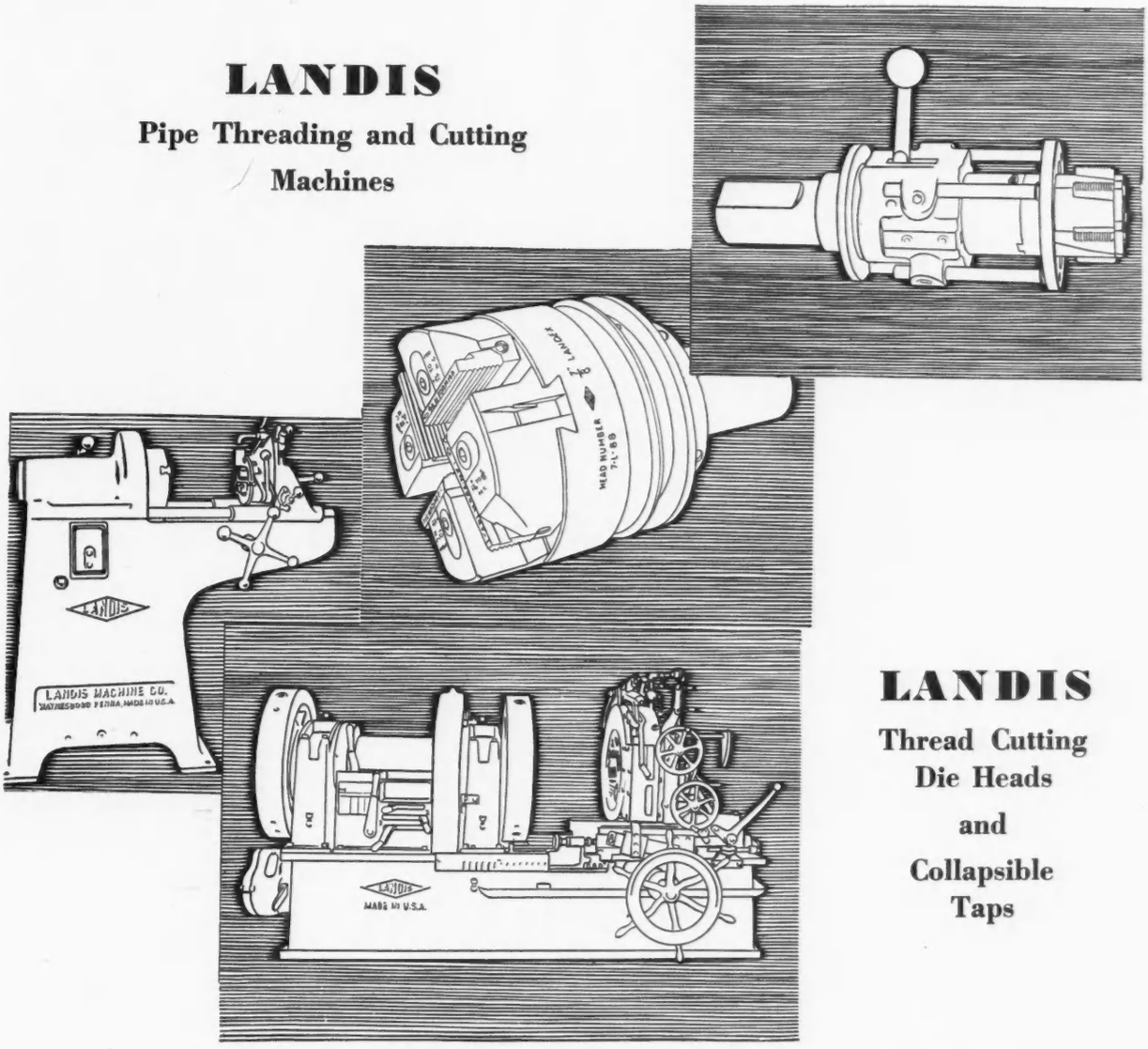


LANDIS

Booths 6 and 7, Okla. Bldg.
International Petroleum Exposition

LANDIS

Pipe Threading and Cutting Machines



LANDIS

Thread Cutting Die Heads and Collapsible Taps

Visit our exhibit and see in operation the most modern pipe threading machines. Have us demonstrate the features of the new LANDIS Threading Die heads and Collapsible Taps.

LANDIS MACHINE COMPANY

WAYNESBORO, PENNA.

FIELD EQUIPMENT Featured at International Petroleum Exposition

The Charles N. Hough Manufacturing Co.

The Charles N. Hough Manufacturing Company, Franklin, Pennsylvania, is exhibiting practically all of its line of modern pumping equipment at the International Petroleum Exposition and Congress.

▪ *Huf-Duo Insert Pump*

The Huf-Duo insert pump shown is a free working, inverted type pump designed to reduce power consumption and rod stress. The outer tube is the moving part, and displacement of fluid comes on the down stroke. Other features of the pump are said to prevent sanding and to save time and labor. This one of the Hough models is manufactured for 2, 2½ and 3-inch tubing.

▪ *Supersize Insert Pump*

Hough displays the Huf-Supersize insert pump, which is an extra capacity insert type working barrel. A complete unit, it is run in and pulled out of the well on sucker rods, a function which has a tendency to eliminate many tubing jobs. Huf-Supersize insert pump is exhibited for 2½ and 3-inch tubing.

▪ *Stripper Pump*

The Huf-Stripper insert pump on exhibition is, according to the manufacturer, a low cost pump for stripper wells or for continuous pumping of deep wells. Its design is such as to tend to minimize trouble with gas locks or with vacuum interference. Two sizes are exhibited: 1-inch size for 2-inch tubing and 1⅜-inch for 2-inch tubing.

▪ *Balls and Seats*

Hough also is displaying a line of specialized balls and seats in five types to meet the range of operating conditions.

Hough Ball and Seat

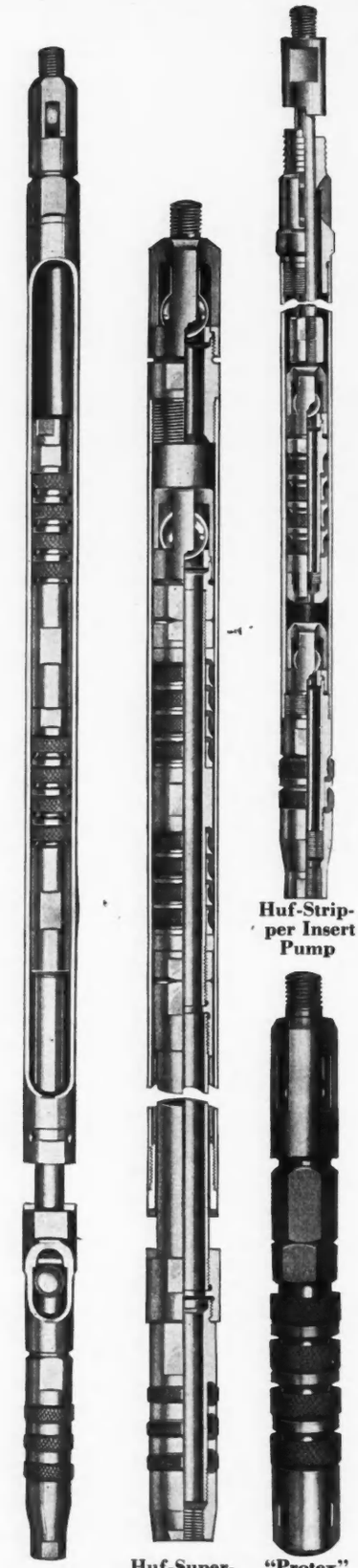
These types are distinguished one from another by the trade names "Steelex," "Repelex," "Bronzex," "Resistex," and "Combinex." Seat surfaces are ground to close limits.

▪ *Upper Valve*

The Hough "Protex" upper valve is of the solid type. Cups and cup rings are placed on the valve body from the top. The cup nut holds the cups in correct position and at the required tension. An upper connection locks the assembly.

▪ *Working Barrels*

Working barrels shown at the Hough booth are made to A.P.I. specifications from cold drawn tubing. They are furnished in all standard sizes with smooth, bright bore, or with chromium plated bore. They are available with upper and lower couplings for plain or upset tubing, or with upper couplings at both ends.



Huf-Duo Insert Pump | **Huf-Supersize Insert Pump** | **"Protex" Upper Valve** | **Huf-Stripper Insert Pump**

Diamond Chain & Manufacturing Company

▪ *Roller Chains*

Diamond Chain & Manufacturing Company, Indianapolis, Indiana, displays steel roller chains of a variety of sizes and strand multiplications, Diamond flexible shaft couplings, and enlarged photograhps of typical oil country drives.

D + B Pump and Supply Company

▪ *D+B Hall Pump*

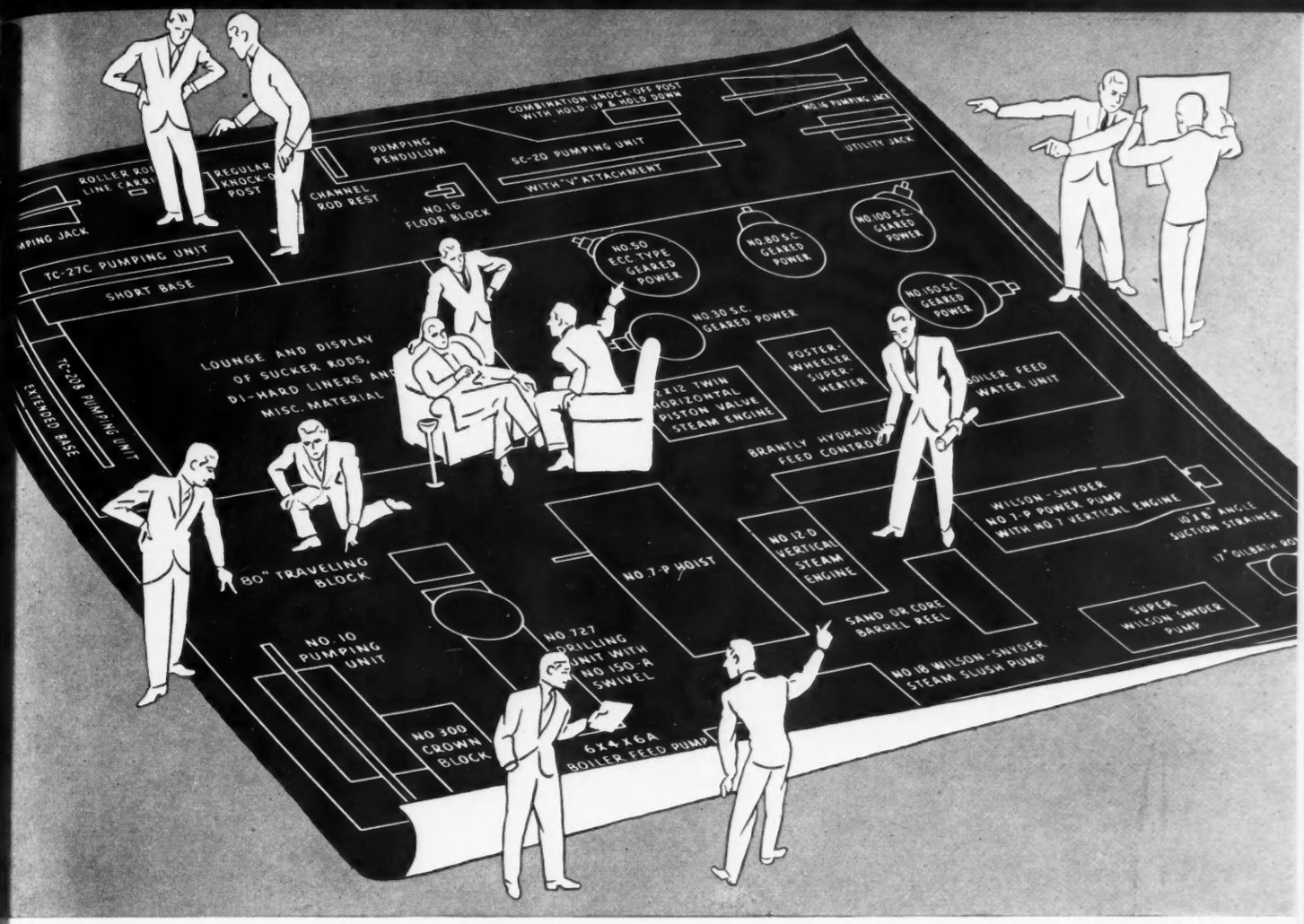
D+B Pump & Supply Company, Los Angeles, has on display a new style oil well pump designed to pump deep wells where high column pressures and large volumes of gas are encountered. It involves the use of dual plungers, the upper one running in a honed tube, and the lower one through a short liner assembly. The valves are assembled in tandem and are situated between the two plungers—connected to the bottom of the top plunger and to the top of the lower. Both valves are spaced as close together as possible in order to handle gas efficiently.

A portion of the weight of the fluid column is carried on the plunger on its downward stroke. This reduces the slack and stretch of the rods to a minimum, and greatly prolongs the life of the pump, rods and other pumping equipment, at the same time allowing for faster pumping speeds.

The space below the lower, or back pressure valve is filled with dead fluid at all times. This oil lubricates both plungers during dry spells and fills the space that ordinarily would allow for the expansion and contraction of gas.

At the bottom of the down stroke, the lower end of the top plungers comes in contact with this body of oil, thus delivering the entire pump load to the tubing. On the up stroke the back pressure valve opens, and, as it follows the upper valve, it fills the entire displacement chamber with fluid. There is no waste space.

D+B Hall Deep Pump


COMBINATION KNOCK-OFF POST WITH HOLD-UP & HOLD DOWN
NO. 16 PUMPING JACK
PUMPING PENDULUM
SC-20 PUMPING UNIT
WITH "V" ATTACHMENT
UTILITY JACK
CHANNEL ROD REST
NO. 16 FLOOR BLOCK
TC-27C PUMPING UNIT
SHORT BASE
NO. 50 ECC TYPE GEARED POWER
NO. 80 S.C. GEARED POWER
NO. 100 S.C. GEARED POWER
NO. 150 S.C. GEARED POWER
NO. 30 S.C. GEARED POWER
LOUNGE AND DISPLAY OF SUCKER RODS, DI-HARD LINERS AND MISC. MATERIAL
FOSTER-WHEELER SUPER-HEATER
BOILER FEED WATER UNIT
12X12 TWIN HORIZONTAL PISTON VALVE STEAM ENGINE
BRANTLY HYDRAULIC FEED CONTROL
TC-20B PUMPING UNIT
EXTENDED BASE
WILSON-SNYDER NO. 7-P POWER PUMP WITH NO. 7 VERTICAL ENGINE
10" & 6" ANGLE SUCTION STRAINER
80" TRAVELING BLOCK
NO. 7-P HOIST
NO. 12 D VERTICAL STEAM ENGINE
SAND OR CORE BARREL REEL
NO. 10 PUMPING UNIT
NO. 727 DRILLING UNIT WITH NO. 150-A SWIVEL
SUPER WILSON SNYDER PUMP
NO. 18 WILSON-SNYDER STEAM SLUSH PUMP
NO. 300 CROWN BLOCK
6X4X6A BOILER FEED PUMP

SEE ALL THIS . . . AND MORE

at the "OILWELL" display at the International Petroleum Exposition

We're tipping you off to what you'll see at the huge "OILWELL" Indoor and Outdoor Exhibit.

Look at this advance floor plan. See the full line of Steam Driven Rotary Machinery, Hoists, Swivels, Crown Blocks, and Traveling Blocks, together with modern Power Plant Equipment including Boiler Feed Pumps, Superheaters, and Feedwater Heaters; also Slush Pumps, Di-Hard Liners, etc.

See the Sucker Rod Display with the Sulphide Corrosion Testing Apparatus in operation; also Geared Powers, Individual Pumping Units, Jacks, etc.

You'll get a big welcome. We're always glad to see old friends and to make new ones.

Remember your trip to Tulsa will not be complete unless you see the "OILWELL" Machinery and Equipment.

EXHIBIT SPACE

3 DRAKE DRIVE

INTERNATIONAL PETROLEUM EXPOSITION

OIL WELL SUPPLY COMPANY

Subsidiary of United States Steel Corporation

Branch Stores in All Oil Fields

"OILWELL"

FIELD EQUIPMENT Featured at International Petroleum Exposition

Pyrene Manufacturing Company

▪ *Fire Extinguishers*

Pyrene Manufacturing Company, Newark, New Jersey, is exhibiting the Phomene Hopper, a continuous foam

Pyrene Phomene Hopper

generator of simplified construction and operation, and Phomene Foam-Making Powder. Simplicity, sturdiness and performance are claimed for this device which converts a water line into a foam stream.

It may be used as a portable unit with a hose line or permanently installed in a pipe line. Water enters at one side; Phomene powder is poured in the hopper and foam is discharged through the line at the other side. It is recommended for industrial fire service wherever flammable liquids are used, processed or stored. Due to the free-flowing qualities of Phomene foam, it is exceptionally speedy in blanketing blazing liquids and solids and smothering the fire.

The Phomene hopper has no levers, valves, gauges or moving parts. It is a complete unit built ready for use. There are no parts to be assembled. The base is malleable iron. The hopper and hopper bowl, cast of special composition metal, cannot be bent out of shape. Powder pails can be pounded on a slam bar to empty their contents completely and quickly. In spite of its rugged construction, the unit weighs only 42 pounds and is easily carried in one hand.

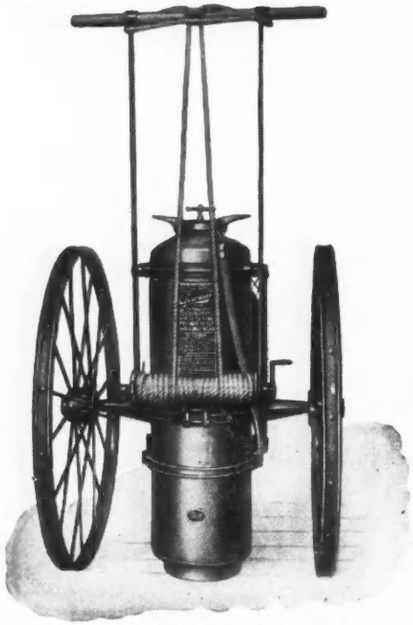
Pyrene Duragarde, 5-Gallon Extinguisher

The flow of powder, it is claimed, is governed automatically by the pressure and amount of water available, and the device operates efficiently with water pressure as low as 45 pounds. An auxiliary water jet in the hopper (an exclusive feature) erodes the powder and flushes it into the main water stream passing through the base.

The unit uses Phomene Hopper Powder, a single powder manufactured at the company's Newark plant. The manufacturers say that this powder goes into solution and forms foam very rapidly. The foam produced is free-flowing and quickly works its way into corners and between or over obstructions, yet is exceedingly durable.

Portable Extinguishers

In the exhibit, all types of hand fire extinguishers are shown. They are selected from the complete line embracing Pyrene 1-pint, 1 and 1½-quart, and 2-gallon vaporizing liquid pump type and 2-quart and 1-gallon vaporizing liquid pressure type; Guardene 2½, 20 and 40-gallon wet chemical type; Duragarde and Accurate 2½ and 5-gallon anti-freezing type; Phomene 2½, 10, 20 and 40-gallon foam type; Phomene hoppers continuous foam generators; Phomene solution hoppers; Phomene foam accumulators charged with dry foam-making powder; and Phomene foam-making powder.



Pyrene 40-Gallon Extinguisher

C-O-Two Fire Equipment Company

▪ *Fire Extinguishers*

C-O-Two Fire Equipment Company, Newark, New Jersey, is exhibiting its line of fire extinguishing apparatus, including pressure-operated types, portable types, wheeled types and hose systems.

▪ *Pressure-Operated Type*

This pressure-operated system is one of a complete line of systems with manual and automatic operation, and local and remote control. "Pressure operation" utilizing the pressure of the discharging gas from initially released control cylinders is a distinct advance in carbon dioxide fire protection, for it eliminates levers and weights for each individual cylinder, removes the possibility of accidental discharge and simplifies the removal of cylinders for weight checking.

Like all C-O-Two systems, it extinguishes fire by releasing carbon dioxide gas from steel cylinders, through fixed piping, terminating with nozzles in the protected space.

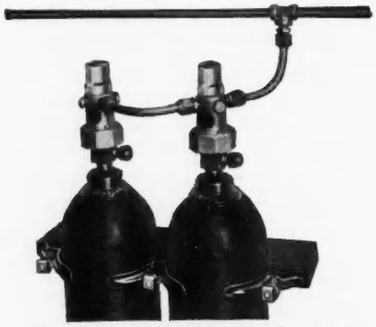
Each cylinder in this system has a C-O-Two auto-pneumatic discharge head. These heads, are made from heavy brass forgings and have but one moving part, the piston assembly. They employ an original and positive action whereby the pressure of the discharging gas from two control cylinders, initially released, is utilized to discharge simultaneously any number of cylinders as a single unit.

The C-O-Two cylinder valves have a standard refilling connection and are fitted with a side safety or pressure relief disc which absolutely precludes accidental discharge in the event of an abnormal pressure being developed in any cylinder.

Another feature is the simplicity of removing cylinders without danger of accidental discharge when making a weight check of cylinder contents. Removal is accomplished by simply unscrewing a ring nut coupling connecting the discharge head to the cylinder valve, loosening the clamps of the cylinder being inspected and pulling out the wood block on which the cylinder is mounted. This permits the cylinder to drop down and be taken out for weight checking. The empty and full weights are stamped on the neck of each cylinder.

If fire occurs during this inspection the system will operate without the cylinder being inspected and without loss of gas from the discharge head where the cylinder has been removed. This safeguard is provided by a ball check in the piston of the discharge head.

This cylinder removal feature makes it unnecessary to disconnect or disturb heads, levers, cable connections or discharge bends, for they remain a part of the permanently installed header and piping.



C-O-Two, Two Cylinder System

The C-O-Two system with the exception of the control cylinders is entirely enclosed against accidental discharge.

▪ *Portable Extinguishers*

C-O-Two portable extinguishers are especially recommended for highly inflammable liquids, paints, oils, solvents and alcohol fires, and for the protection of all types of electrical equipment. They are

available in the puncturable sealing disc and seated valve types.

They are operated by pulling out a lock pin on top of the cylinder valve and turning the hand wheel. This releases dry inert carbon dioxide gas stored in the steel cylinders as a liquid under pressure, and discharges a cold white cloud of heavy gas and carbon dioxide snow. This gas by the pressure of its own expansion permeates in all directions reducing the oxygen content of the air and snuffs fire out in seconds.

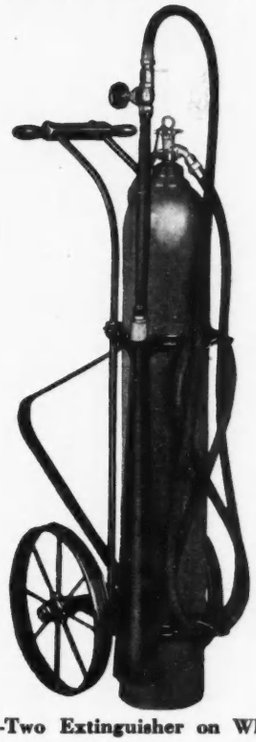
Cylinders are of special light weight steel. Cylinder valve and hand wheel are made from naval brass forgings. Chrome finish is standard. Hose is a high pressure metallic and rubber hose with cotton braided cover. The discharge horn is of fabricated non-breakable material.

C-O-Two Portable Extinguisher

A periodic weight check of the extinguisher is the only maintenance required. May be recharged by any carbon dioxide manufacturer.

▪ *Extinguisher on Wheels*

This wheeled carbon dioxide unit is particularly effective on larger flammable liquids and electrical fire hazards beyond the scope of hand extinguishers.



C-O-Two Extinguisher on Wheels

It consists of a steel cylinder containing carbon dioxide gas, valve, hose and horn mounted on a two-wheel carriage. The seated valve on the cylinder is sealed by a locking pin, lead wire and seal which gives visible evidence if the extinguisher has been used. The high-pressure hose is terminated by a non-breakable non-conductive discharge horn equipped with a quick-opening hand valve to control the discharge while moving around the fire. The horn is securely held in position and protected against damage by a support and clip on the side of the cylinder.

The 50-pound unit has 15 feet of hose, is 54 inches high, 18½ inches wide and weighs 225 pounds. The 77-pound size has 25 feet of hose, is 60 inches high, 23 inches wide and weighs 320 pounds. The 100-pound extinguisher, having two 50-pound cylinders, has 40 feet of hose, is 59 inches high, 29 inches wide and weighs 530 pounds.

▪ *Hose Systems*

C-O-Two hose systems provide flexible fire protection in a stationary installation, and consist of one or more steel cylinders with liquefied carbon dioxide, a hose reel or rack, high pressure discharge hose and discharge horn with control valve. Hose and horn may be installed at cylinder locations or remotely from cylinders with a remote pull control for releasing the gas in cylinders.

C-O-Two Hose Reel System

Norma-Hoffmann Bearings Corporation

▪ *Bearings*

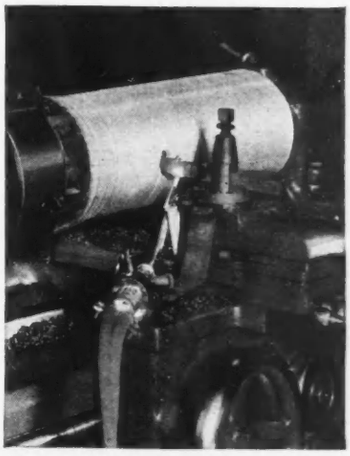
Norma-Hoffman Bearings Corporation, Stamford, Connecticut, is displaying a complete line of sample ball, roller and thrust bearings illustrating the representative types included in a line which consists of 108 series. Also on display are samples of ball and roller bearing equipped pillow blocks of various kinds.

The corporation features this year various new additions to the line of completely enclosed self-protected ball bearings, including the "Cartridge" bearing which has extra large grease capacity, removable seals and grease refilling plug.

Haynes Stellite Company

▪ *Haynes Stellite*

Haynes Stellite Company, unit of Union Carbide and Carbon Corporation, New York, is showing what is termed a "red hot demonstration," which consists of a red hot cutting tool in actual operation.



Haynes Stellite Tool Operating at Red Heat

Wherever this demonstration has been held previously, crowds of interested onlookers have stood amazed at the performance of the tool, which is kept constantly at a bright red heat by an oxy-acetylene flame.

The demonstration is not given as a life test of the tool, but rather to demonstrate the important property of red hardness of Haynes Stellite J-Metal, a non-ferrous alloy of cobalt, chromium and tungsten. The material to be machined is a hot rolled steel billet, 5 inches in diameter and 16 inches long, with 0.15 to 0.20 percent carbon and 0.30 to 0.60 percent manganese. The depth of cut is 0.025 inch, the feed 0.004 inch, and the speed 130 surface feet per minute.

A 0.4 by 0.5 inch solid Haynes Stellite J-Metal tool is mounted with approximately a 2-inch overhang. The oxy-acetylene welding blowpipe is adjusted so as to direct a flame on the bottom edge of the tool 1 inch from the end. In this manner, about 1½ inch of the cutting end of the tool is kept constantly at a red heat, or approximately 1380 to 1475° F. A small portion of the alloy near the hottest zone of the flame is actually melted.

After 16 hours of continuous cutting the tool may be removed, cleaned up with a stone, and put into service again. The cutting edge of the tool still will be in good condition and could cut longer without any attention whatsoever.

The exceptional red hardness of Haynes Stellite, so clearly demonstrated by this test, is due to the fact that its base is cobalt, rather than iron or any oher metal. Red hardness is of value to cutting tools because it enables them to cut faster and longer, thus lowering production costs. Tests have shown that under commercial

conditions the edge of a cutting tool often becomes as hot as 1110° F. and that even higher cutting edge temperatures exist.

The test also indicates the value of Haynes Stellite in the form of welding rods as a hard-facing material on parts used in operations involving heat and abrasion. As a hard-facing material, this alloy is easily applied by means of the oxy-acetylene blowpipe or the electric arc.

France Packing Company

▪ *Packing*

The France Packing Company, Philadelphia, is displaying a complete line of floating metallic packings for use on all types of engines and compressors. This line of packing is of the floating type, that is, the rings are contained in grooved cases and are free to float with any lateral or side movement of the rod so as to reduce friction and give longer service. It is used extensively by engine and compressor builders and by the refining industry.

J. H. Williams & Co.

▪ *Tools*

J. H. Williams & Company, 75 Spring Street, New York, has a complete exhibit of its various tools, and tool holders, featured by its "Boll-Weevil" display board in which a mechanical arm operates a pipe tong exactly as in actual service. First a series of six bites are taken on the rotating pipe section demonstrating the action of the tongs in making up pipe. Then the mechanical arm lifts up on the handle demonstrating the breaking out action of the tongs.

▪ *Tool Holders*

A new line at this time is the Agrippa Tool Holders. These tool holders are drop-forged, specially heat treated and hardened. The cutter holding channel pro-

Williams Agrippa Tool Holder

vides anabsolute true and rigid seat for the cutter. The nose of the holder is chamfered to permit convenient use in cramped quarters. Agrippa holders are available in a wide variety of patterns and sizes for every regular operation on lathe, planer and shaper.

▪ *Carbon Steel Wrenches*

Williams' carbon-steel wrenches are drop-forged and hardened, and of high quality. Openings are accurately milled, surfaces and edges finished smooth and furnished with bright heads and baked on black enamel handles.

▪ *Williams' "Superrenches"*

Williams' "Superrenches" are forged from chrome-alloy steel, permitting a trim, light, slim-jawed design of unusual strength. Superrenches are available in all popular patterns including single and double head engineer's, Duohex-Box patterns and offset socket wrench patterns designed especially for refinery service. All "Superrenches" are heat treated and chrome-plated with high polished heads.

▪ *"Vulcan" Chain Pipe Vise*

These vises are light, compact, rapid in action and positive in grip. Suitable for fastening to either bench or post. They are made of wrought steel with drop-forged jaws, saw tempered for file sharpening. The chains are of the same quality as Vulcan chain pipe tongs.

▪ *"Vulcan Boll Weevil" Resersible Chain Pipe Tongs*

"Vulcan Boll Weevil" is a simplified tong, having only six parts. It is designed for general oil country service, but it is particularly suited for pipe line work. The "I-Beam" construction of the handle lends rigidity and strength. Two bolts firmly secure the jaws, making it impossible for them to spread. The operation of "Vulcan Boll Weevil" tongs is likewise extremely simple. The tongs do not need to be held up to the pipe but are laid on top of it and the chain hooked around. To "make-up" pipe, tongs are slid forward so that the rear end of the jaws engages pipe and the handle is pushed down. For "breaking-out" tongs are pulled back to engage forward teeth with the pipe and the operator pulls up on the handle. Jaws are reversible, providing double life, and each chain is proof tested and certified. Four sizes accommodate pipe from ¾-inch to 12 inches.

▪ *Williams' "Vulcan" Pipe Tongs*

This is the original "Vulcan" introduced by Williams about 35 years ago. It is made entirely from tough wrought steel and is fully guaranteed. Available in 9 sizes with either flat link or cable chain for pipe ⅛-inch to 18 inches.

▪ *"Vulcan Superior" Pipe and Fittings Tongs*

"Vulcan Superior" is a universal service tongs for both pipe and fittings. The "V" recess in the jaws insures quick and positive grip on fittings. The jaws also are reversible.

All "Vulcan Superior" Chains are proof tested and certified. Tongs are available in seven sizes for pipe ⅛-inch to 12-inches. Extra chains for all patterns on Williams' Tongs are interchangeable size for size. This is a new Williams feature which simplifies replacement and reduces dealer's stock.

▪ *"Vulcan Superior" Chain Pipe Vise*

This vise has four distinctive features:

1. "Overhead" adjustment—the handle is on top where it is easy to operate.
2. Reversible jaws—when the teeth first in use wear, simply remove the screws and turn the jaws over.
3. Larger capacity—each vise takes pipe ½-inch larger than other chain vises of similar size.
4. Supplied in two styles of finish—chrome-plated over nickel, and standard finish with orange panel in jaws. Made wholly of tough wrought steel with drop-forged base, jaws, handle and chain-arm. Fully guaranteed. Two sizes handle pipe ⅛-inch to 4½ inches.

American Rolling Mill Company

▪ *Spiral Welded Pipe*

American Rolling Mill Company, Middletown, Ohio, and Western Metal Manufacturing Company, its Texas distributor, are exhibiting spiral-welded pipe in various sizes. Flanges, couplings and fittings show adaptability of the pipe to all kinds of outlets and surface contours. There is shown also a panel of welding specimens, showing in detail how the pipe is welded perfectly. Manufactured spiral-welded pipe ranges from 6 to 36 inches in diameter.

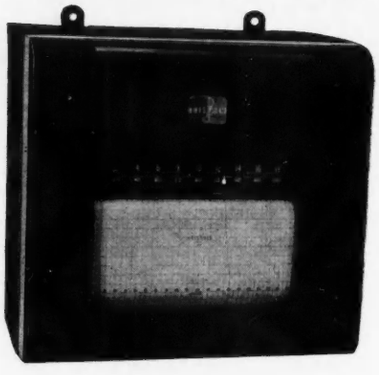
The Bristol Company

▪ *Instruments*

The Bristol Company, Waterbury, Conn., is exhibiting a varied line of control instruments including its wide strip potentiometer-type pyrometers and resistance thermometers; electric-type thermometer controllers; flow meters; temperature controllers, time pressure controllers and valves.

▪ *Pyrometers and Resistance Thermometers*

The wide-strip potentiometer type pyrometer and resistance thermometer operates on the potentiometer system of temperature measurement. This instrument is self-balancing, self-standardizing and self-compensating for cold junction temperature changes and is fully automatic in operation. It is outstanding for its speed of response to temperature changes. All mechanical parts are designed

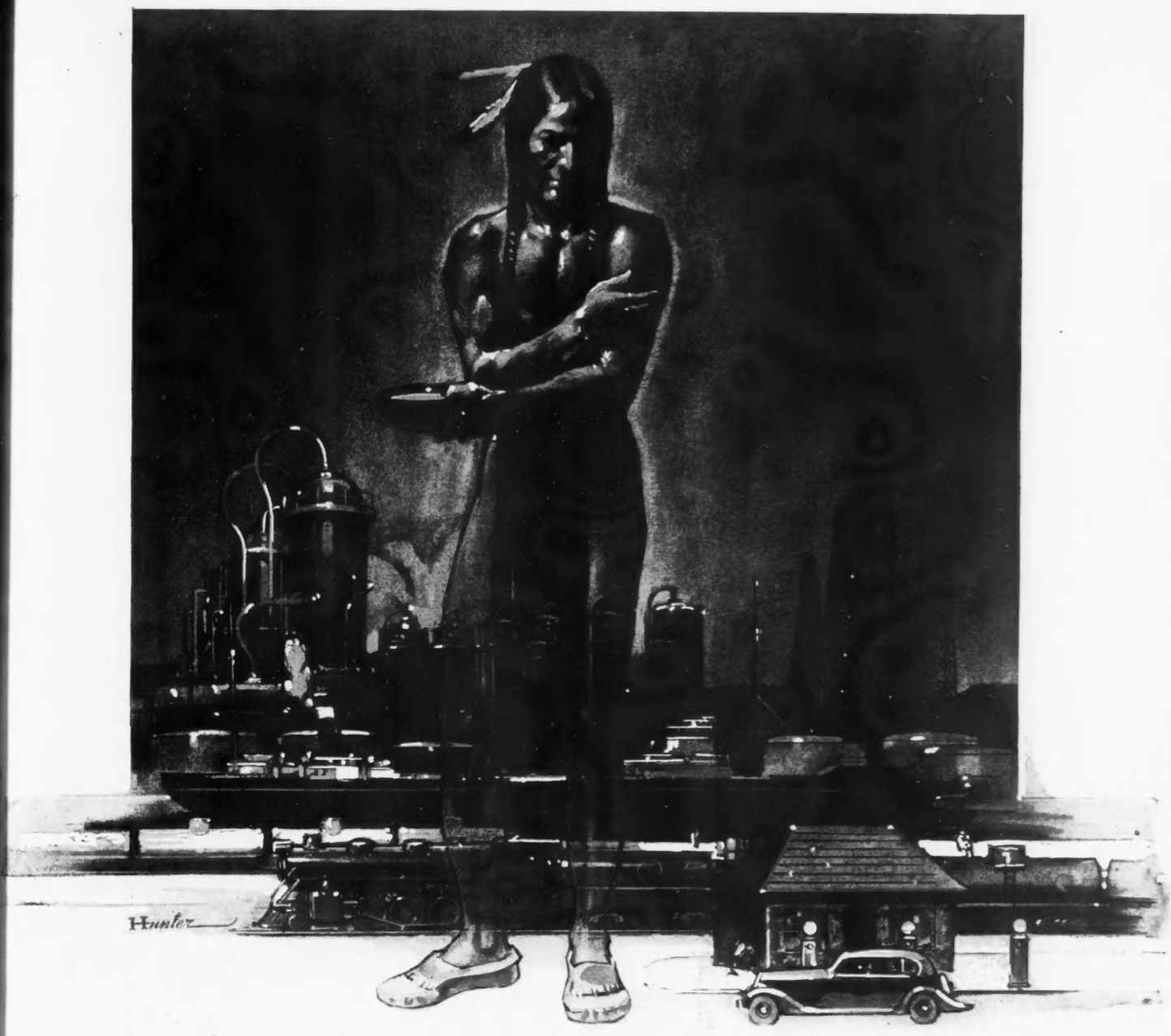


Bristol Potentiometer Thermometer

in accordance with accepted modern principles. The free use of stainless steel, aluminum, zinc alloy castings, molded bakelite, hard rubber and chromium plating make this instrument of modern type. All gears are accurately cut and operate in enclosed gear boxes packed in grease or running in oil. The design of this instrument makes it possible to swing the entire mechanism out of the case for inspection and service.

▪ *Thermometer Controller*

For applications requiring the use of the thermometer type of electric controller, the company exhibits the newly developed



Petroleum was the red man's medicine in 1895 when The First National Bank and Trust Company of Tulsa was organized. Since then, this Bank has become banker to the oil industry in all its branches throughout the Mid-Continent area.

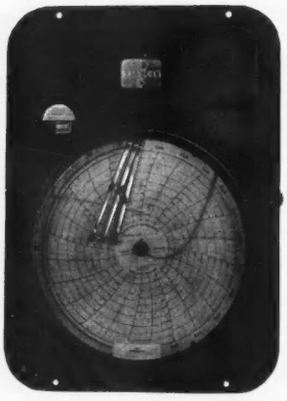
WE BANK ON OIL

FIRST NATIONAL BANK
AND TRUST COMPANY
TULSA

FORTY-ONE YEARS OF CONSTRUCTIVE BANKING

Model G-40-L, which employs the use of mercury-in-glass type switches. The switches in this instrument are operated by means of a telechron motor, which means positive action, thus producing dependable operation and control. The control mechanism in no way retards or interferes with the action of the temperature measuring element. The temperature system is the Bristol type which has been in use for years in thermometers and similar temperature-measuring devices. This type of system is quick and accurate and will maintain its calibration indefinitely.

▪ *Flow Meters*



Bristol Flow Meter

The Bristol mechanical type integrating flow meter, equipped with static pressure pen, employs the use of a forged steel meter body operating on the conventional U-tube principle and measuring the differential pressure across an orifice placed in the pipe line. In addition to recording the actual flow over a period of 24 hours, the meter also is fitted with a totalizing integrator which continuously totals the flow.

A static pressure pen recording static line pressure operates on the same chart. In the event that it is desirable, temperature record can also be furnished by adding an additional pen to the same instrument.

Flow meters also can be operated electrically, thus allowing the recording and integrating meter to be placed at any distance required from the orifice plate. The Bristol electric flow meter is unique in that only two wires are necessary to connect the transmitting device located near the orifice with the conventional type flow recorder and integrator located wherever required. The distance between the two instruments can be practically anything required up to several miles or even more. The operation of the outfit is such that line resistances and other electrical disturbances have no effect on the accuracy or operation of the meter.

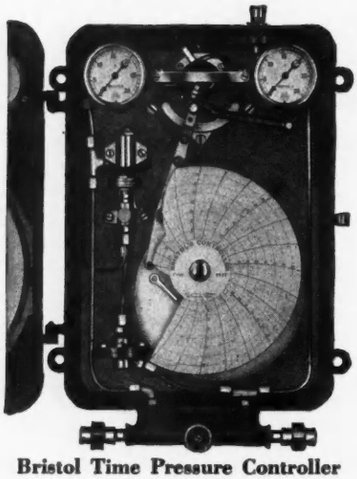
▪ *Temperature Controller*

The Bristol master free-vane temperature controller is an instrument employing the use of either the conventional type temperature system or pressure system as desired and so arranged as to operate air diaphragm-type valves to maintain predetermined temperatures and pressures

Bristol Temperature Controller

where extreme sensitivity and perfect throttling features are required. The Bristol free-vane type of controller, which employs the use of a thin blade-like vane operating between two opposing air jets, gives extreme sensitivity which can be adjusted by hand and, in addition, employs the use of secondary pilot valves and other equipment in order to give the instrument reset features, thus taking care of any tendencies that may develop which may cause the instrument to leave the control point at times of extreme load changes. This instrument has the further advantage of being able to operate as a direct-reading recording or indicating temperature instrument. Since there is no direct mechanical connection between the moving element and the control mechanism, no retarding action hinders the pen arm from recording true temperatures under all conditions, regardless of whether the control mechanism is functioning.

▪ *Time Pressure Controller*

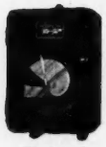


Bristol Time Pressure Controller

The time pressure controller is an instrument very much similar to the regular free-vane air-operated controller in that it employs the use of exactly the same temperature or pressure measuring element and air-control equipment. It differs, however, in that a cam which is rotated by a clock automatically sets and maintains the temperature at predetermined points without the operator manually setting the device. Thus, a predetermined cycle of operation can be secured by merely starting the controller and allowing it to follow the cycle outlined. Various cycles can be obtained by simply changing to the proper cam which requires only an instant to change.

▪ *Metameter*

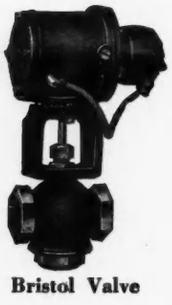
The Bristol Metameter is a device used for recording and indicating pressures, temperatures, flow and most any other condition that can be measured by a primary instrument and transmitting these recordings to some distant location. One of the major advantages of this type instrument is the fact that it employs the use of only two wires between the transmitting and receiving instruments. These wires may be privately owned two-wire cables or the outfit may be operated over existing telephone lines and may even be simplexed over telephone lines already carrying voice transmission. Line resistances, insulation, inductances from adjoining power lines and common electric disturbances have no effect on the operation of this instrument. Basically, the operation is dependent upon the length of impulse rather than the strength or quality of impulse which accounts for this unusual feature. The applications suitable for this type of equipment are practically limitless, while the simple but accurate and positive method of operation guarantees better than ordinary results.



Bristol Metameter

▪ *Valves*

Bristol Valve



Bristol Valve

The Bristol Company offers both electric motor operated and diaphragm pneumatic type control valves. The valve bodies and trim are furnished to suit the various ingredients handled. The electric valve is operated by a powerful reversing type motor. This type of electric motor valve will stand up under hard operating conditions indefinitely with proper care. The pneumatic type diaphragm-operated valve is a ruggedly constructed, accurately built control valve and can be furnished in most any size required with body and trim to suit conditions. Various adjustments, which are very easily made, make this valve suitable for the most intricate control jobs. This valve is made to stand up under the severest punishment without losing any of its floating characteristics. It is furnished with a stem lubricator, air-cooled stuffing box and enclosed spring.

Yes...we'll be seeing you...

• You are cordially... and urgently... invited to inspect the action-exhibit of Oil Industry threading equipment shown at the Exposition by the makers of the most complete and up-to-date threading line in the world... OSTER-WILLIAMS.

In print we can only tell you that we can save you money. At our display we will prove it to you by actual working demonstrations in which you can hold the watch.

Jot this down on your memorandum pad. *Be sure to see the OSTER-WILLIAMS threading demonstrations at*

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IN THE OKLAHOMA BUILDING

THE OSTER MANUFACTURING COMPANY

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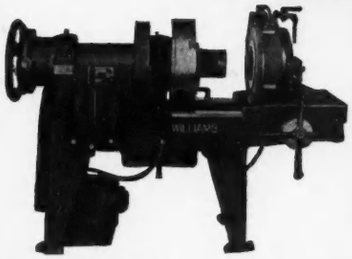
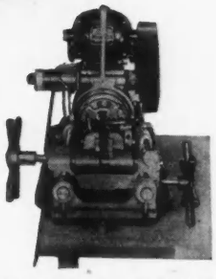
For 43 years specialists in the manufacture of top quality hand and power pipe-threading tools and machines, the products of The Oster Mfg. Co. are used on every continent of the globe. The efficient answer to virtually any kind of pipe or bolt threading job can be found in the OSTER-WILLIAMS line. Send your inquiries to *"Threading Headquarters."*



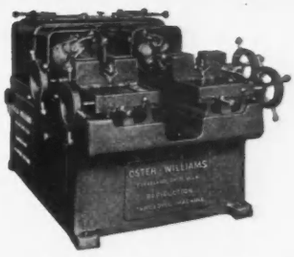
WILCO No. 706 . . . threads all sizes from 2½" to 6" in one die-head, without change of dies.



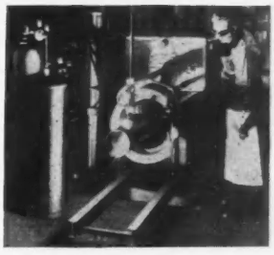
PORTABLE PIPE & BOLT THREADERS . . . the famous, popular Tom Thumb line . . . to be shown in two types.

?

FIRST SHOWING of a completely new machine designed specifically for Oil Industry use and establishing new standards of efficiency and broad usefulness.



PRODUCTION THREADING MACHINE No. 922 . . . a high efficiency, all-round performer, handling straight bolt work and practically every variety of threading job.



No. 212 CUTTING MACHINE . . . *At Last!* a practical, simple-to-operate torch-cutter for producing pipe-intersections for welding. Here's a demonstration that can't fail to fascinate you.

OSTER
THREADING EQUIPMENT
WILLIAMS

FIELD EQUIPMENT Featured at International Petroleum Exposition

The Western Iron & Foundry Company

▪ ***Crown Blocks***

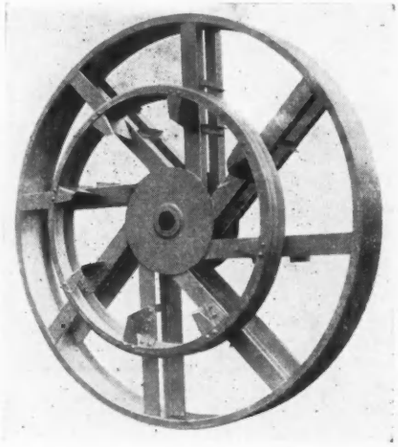
The Western Iron & Foundry Company, Wichita, is showing its drilling and pumping crown blocks. The bearings are chain oil type and adjustable on the crown block beams by means of J-bolts. The lid of the bearings can be removed without bolts dropping down the derrick. The sheaves are all A. P. I. standard.

▪ ***Western Countershafts***

Countershafts made by Western Iron & Foundry Company are constructed with carbon or special steel shafts and with plain or chain oil type bearings, either straight or 45 degree bearings or roller bearings.

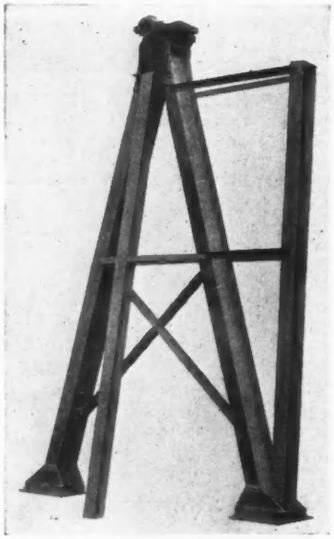
▪ ***Band Wheels and Tug Rims***

There is not a bolt or rivet used in Western all-steel band wheels and tug rims, the face of which is rolled from ¼-inch plate with 5/16-inch crown. There



Western Band Wheel and Tug Rim

are 16 spokes made from 6-inch by 4-inch by ½-inch angles with continuous welding to face and hub flanges. The flanges



Western Sampson Post

Western Core Drilling Machine

are made from ½-inch steel plate and the hub of special cast steel.

▪ ***Core Drilling Machine***

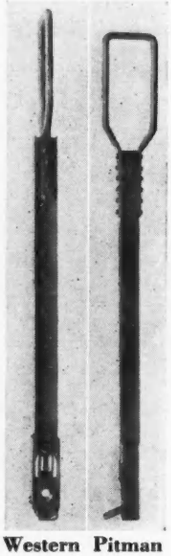
The Western core drilling machine is designed and manufactured as a high-speed coring unit having extreme mobility and simplicity of design. The power take-off is from the truck engine by direct connection shaft. No other power is used.

▪ ***Pitmans***

Western's pitman is made from 8-inch WF section I-beams with A.P.I. dimensions. The boomer lever arrangement is made very rigid and clamps wrist pin securely. Wedge type also is made very rigid to withstand shocks.

▪ ***Sampson Posts***

These posts are designed to meet rigid drilling and pumping requirements. The A-frame construction is with a back blade and is made from two 14-inch section I-beams. Heights are 16 feet 6 inches and 17 feet 6 inches. Entire post is of semi-welded construction.



Western Pitman

▪ ***Walking Beams***

Western's heavy-duty pumping and drilling beams are fabricated from 24-inch CB sections in standard weights per foot. The angles are welded to flanges and web. Pumping ends are made from rolled sections and plates, eliminating all possible defects. They are of all-welded construction, 23 feet to 27 feet.

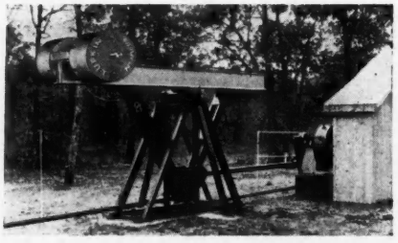
▪ ***Ogden Counterbalances***

The Ogden counterbalance is a simple device installed on the walking beam. It cushions the rod and fluid load, allowing rods to reach full length of stroke. It is said to provide longer rod and belting life, while saving power costs. The counterbalance is easily adjusted.

Lufkin Foundry & Machine Company

▪ ***Reduction Gear Pumping Units***

Lufkin Foundry & Machine Company, Lufkin, Texas, exhibits at the Tulsa show a complete line of reduction gear pumping units, both twin crank and back crank types.

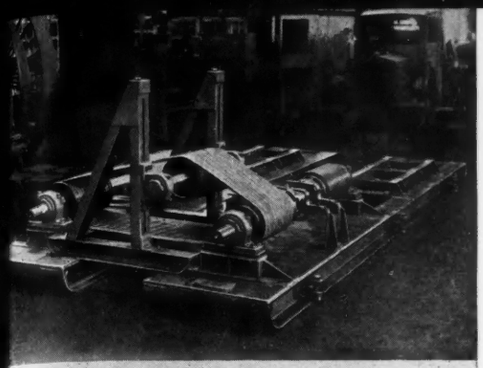


Lufkin Fincher Counterbalance Type Take-off

Featured in Lufkin's exhibit are the twin crank assembly Type 1-41, with an electric motor drive; the twin crank assembly Type 5-7, with a gas engine drive, and a Type 26 reduction gear pumping unit with a back crank connection to a Lufkin-Fincher counterbalance take-off and a Lufkin No. 17 jack.

The equipment displayed is heavily constructed but compact. All the gears used in the units are of the Sykes herringbone pattern accurately cut from hard alloy steel and designed in such a manner as to eliminate end thrust.

Lufkin Turn Crank Unit Assembly Type I-41

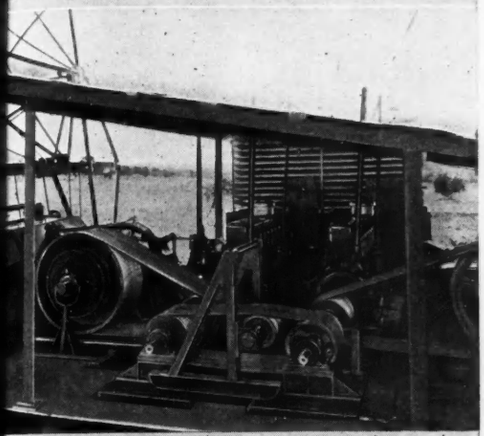


ngine Bases, Texrope Drives and Tightener
r 240 hp engines, for Mechanical Drilling Rig.

Drilling Rigs to Suit Varied Requirements

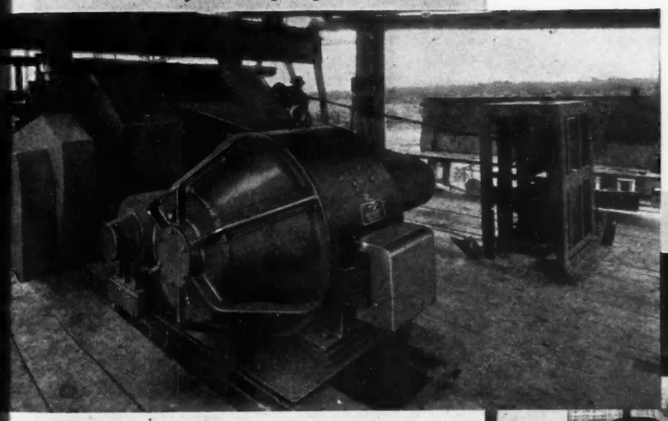
● Texrope drives have proved their dependability to transmit power economically under severe operating conditions. They have made possible new combinations of equipment for drilling and for pumping. Their flexibility and short centers have permitted close coupling of the various units, such as motor to drawworks or slush pump or motors and engines to generators. Texropes cushion the shock, will not slip and require little care.

● One of the mechanical combinations using Texrope drives is shown below. Two 200-hp engines are driving a rotary drilling rig through Texrope Drives. This conventional hook-up allows compounding of engines for hoisting, individual operation of pumps and table, or operation of both pump and table by either engine.



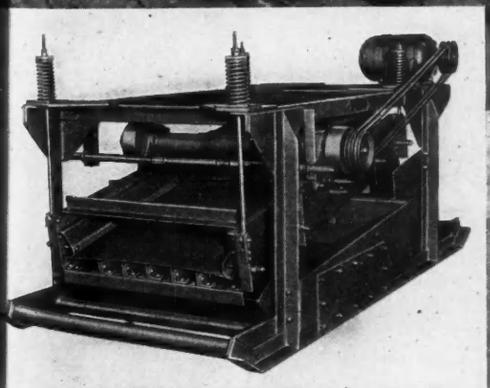
Allis-Chalmers Texrope Driven Mechanical Rotary Drilling Rig.

● Allis-Chalmers pioneered in the development of heavy duty d-c rotary drilling equipment, building engine driven units either direct connected or belted to the generator. General advantages are: Flexibility of control, non-stalling of engines, ease of rigging-up; reliability; protection against excessive shock; economy in fuel and water. Exclusive features of Allis-Chalmers d-c rigs are: Single engine operations; self-contained blowers; separately driven exciters; and electric starting for engines where desired. By substituting an induction motor for the engine, this rig may be used for operation from a-c power lines.

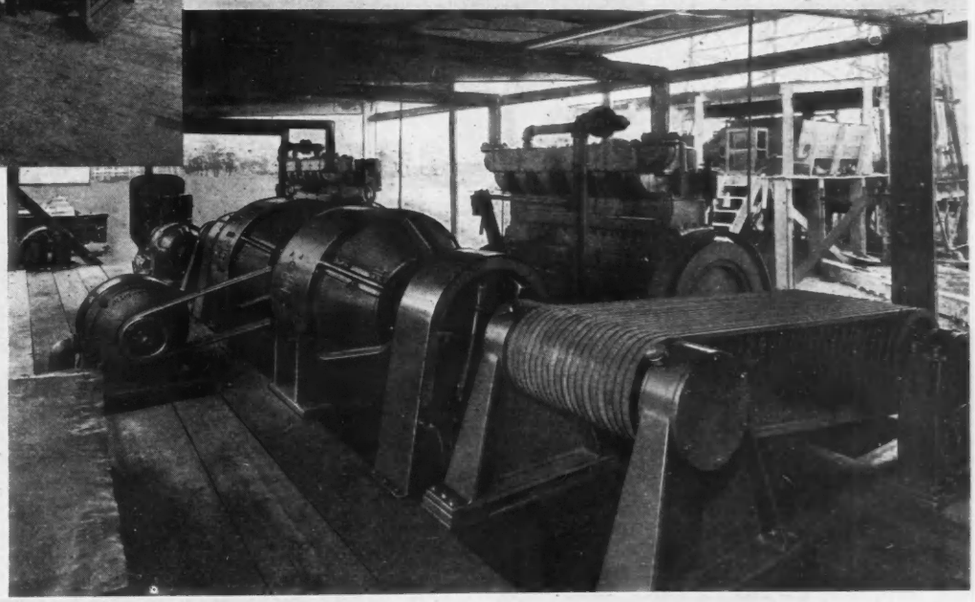


Left: Hoist and Drill Motor with Texrope Drive to Drawworks.

Below: Generator Driven by Engine through Texrope Drives.



Allis-Chalmers "Shale Shaker" Mud Screen.



ALLIS·CHALMERS

MILWAUKEE WISCONSIN

FIELD EQUIPMENT Featured at International Petroleum Exposition

E. M. Smith Company

▪ *Grizzly Drill Pipe Protectors*

E. M. Smith Company, Los Angeles, is showing the Grizzly drill pipe protectors, which have a perfected locking arrangement and a strong malleable iron cage to provide a vise-like grip. No special tools are required to place the protector on the drill pipe, yet it is there to stay until it is desired to remove it, which can be done easily by driving out the tapered key that holds it together.

Grizzly Drill Pipe Protector

▪ *Rotary Hose*

The manufacturer claims the Grizzly Powerflex hose exhibited is a tough, strong and flexible hose that will stand up under the strains of deep drilling. It is made of a large tube of extra thick oil-proof rubber, having a full 2½-inch opening that permits full circulation and minimizes friction. Construction involves use of multiple plies of strong fabric woven from long staple cotton, built up ply on ply, impregnated with pure rubber compound and vulcanized under pressure into a solid homogeneous mass.

An exclusive method of protecting the rubber tube and fabric against high pressures with a special type and design of high carbon steel armor is used. A tough, strong cover, of extra heavy friction duck is used. This permits clamps to be assembled under higher pressures and to hold securely.

Grizzly Powerflex Rotary Hose

▪ *Grizzly Cub Rotary Hose*

Grizzly Cub, ranking E. M. Smith Company heir of Grizzly Powerflex rotary hose, is made to withstand ordinary pressures encountered in drilling service. It is very flexible.

Grizzly Cub Rotary Hose

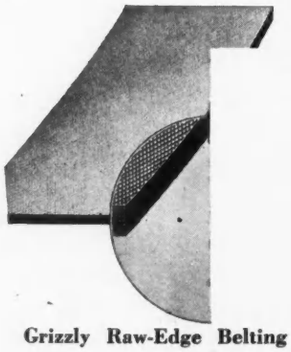
▪ *X-T Brake Lining*

X-T woven brake lining embodies the coefficient of friction necessary to assure better brakes; easier control; longer, better service; and the highest factor of safety at all depths, it is claimed. It is available in any length for complete coverage, or 12-inch blocks, in any thickness desired.

X-T Brake Lining

▪ *Raw-Edge Belting*

E. M. Smith Company's "Grizzly" raw-edge belting is made of ply on ply of special heavy, tightly woven duck with the highest quality friction between plies. Plies have a tensile strength of approximately 400 pounds per inch per ply. Friction between plies has a pull of 35 pounds per inch, and contains an anti-oxident which prevents drying out.

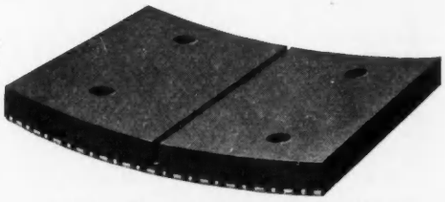


Grizzly Raw-Edge Belting

Maximum stretch will not exceed 2 percent in any instance, the manufacturer claims. Grizzly belts do not require cutting even after months of service.

▪ *Brake Blocks*

The Grizzly full moulded brake block on display is a solid, semi-rigid, homogeneous body containing no rubber or wire yarns. It is full-moulded, cured oversize, pre-formed and ground to size and thickness. The manufacturer states this type block is more than 75 percent selected asbestos impregnated with an efficient lubricant that lubricates the rims and insures a highly polished surface. There is no wire in the wearing surface. The block is moulded under 500 tons hydraulic pressure. This construction saves the rims and prevents scoring.



Grizzly Full Moulded Brake Blocks

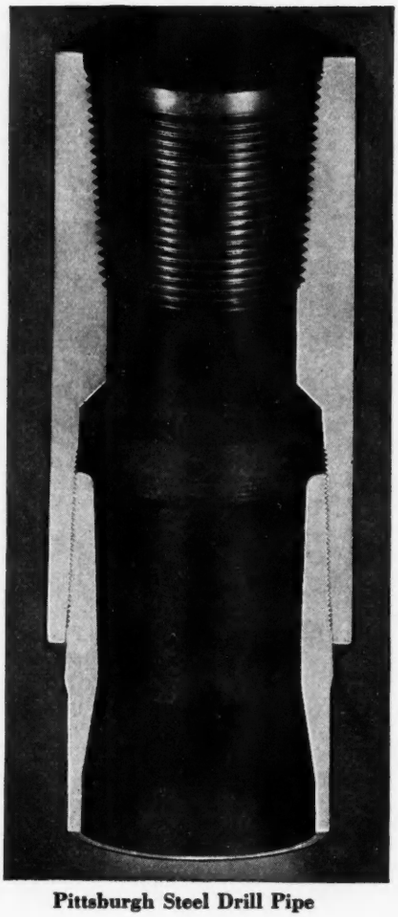
Pittsburgh Steel Company

▪ *Tubular Goods*

Pittsburgh Steel Company, Pittsburgh, Pennsylvania, is showing a comprehensive set-up of casing, drill pipe, tubing, line pipe, still tubes and other items.

▪ *Drill Pipe*

A particular feature of the display is a showing of cut-away specimens of "special" drill pipe. This item, in addition to the standard interior upset, employs a



Pittsburgh Steel Drill Pipe

slight exterior upset which is machined in the same taper as the taper of the threads, thus affording a "land" area. The tool joints that are made to correspond provide for a tight-fitting shoulder, affording the advantages of shoulder welding of the joint.

The claimed 30 percent or more added contact surface relieves the last engaged threads on the pipe of the otherwise destructive vibrations, whipping and biting, and permits further creep or tightening under stress, thus avoiding thread loosening and the consequent detrimental action of leakage.

Shaffer Tool Works

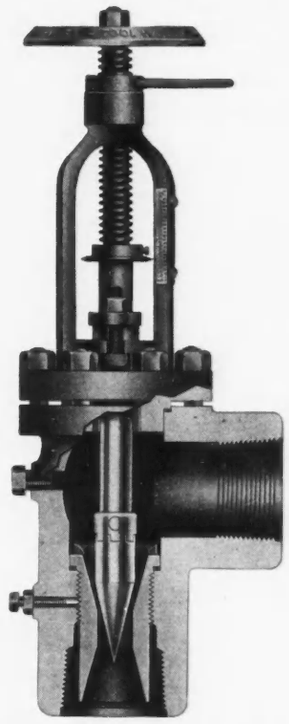
Shaffer Tool Works, Brea, California, is exhibiting a complete line of high pressure equipment and fishing tools.

▪ *Cellar Control Gates*

Shaffer cellar control gates are designed to provide safety against blowouts when pipe is either in or out of the hole. One gate is equipped with rams to close around drill pipe, and the lower gate is equipped with rams for complete shutoff when pipe is out of the hole. The manufacturer claims this makes it possible to tube wells under heavy gas pressure and make water shut-off tests by putting pressure inside the casing. Shaffer Gates are tested to pressures up to 6000 pounds per square inch with an ample factor of safety. It is claimed these gates will close and hold under all conditions encountered in modern drilling. These gates may be operated manually or mechanically.

▪ *Spool Type Landing Heads*

The Shaffer spool type landing head exhibited is made in two models, the "A" type for moderately high pressures, and the "B" type for extreme high pressures. These heads provide means of packing off individual strings of casing with maximum safety and minimum cellar space. The manufacturer states that when using these landing heads each individual string is landed at any point without any necessity for "letting go," measuring or rethreading; each string is supported on its own flange with an upper flange provided for the support of the next string; each string is suspended on its own set of slips with no accumulation of weight put on those slips by subsequent strings of casing and tubing; and that each string is packed off securely against high pressure with provision for gas outlet, mud line or overflow as required.



Shaffer Adjustable Flow Bean

▪ *Adjustable Flow Beans*

The patented Venturi tube is a feature of the Shaffer adjustable flow beans for controlling the flow of fluid and regulating the pressure and rate of flow to the closest degree possible. The beans are used for holding back pressure on circulating fluid during drilling. They are adaptable as mud valves and work well under high pressure.

Type 34 Shaffer adjustable flow beans are equipped with flanges and metallic packing offering the advantage of all connections being bolted to conform with the most recent practice in making up flanges with Toncan iron packing rings.

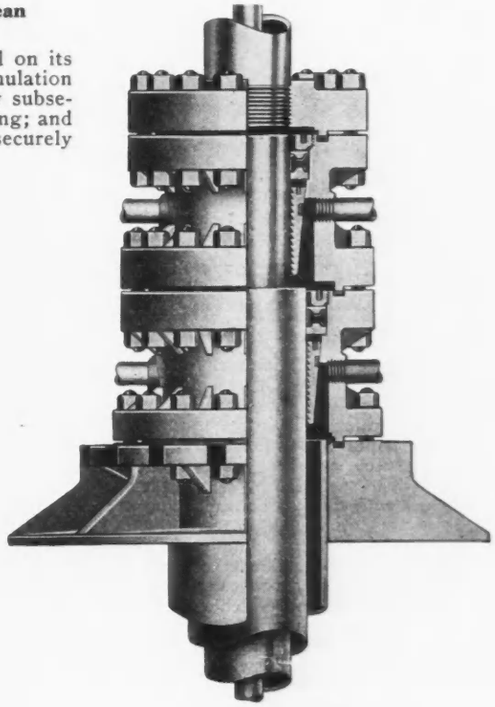
Type 34, Type 34MP and Type 27 are made for pressures up to 5000 pounds per square inch. The East Texas type is designed to control the flow of moderate pressure wells without sacrificing flowing qualities. Replaceable bushings are furnished for high pressure drilling. Micro tips are furnished to secure an equal increase in the opening area for each turn or fraction of turn of the wheel throughout the travel of the tip.

▪ *Shaffer Fishing Tools*

Shaffer fishing tools are made of alloy steels, scientifically heat treated and machined after heat treating.

The Shaffer expanding pin tap is made for left-handing, or backing-off strings of drill pipe "stuck" in tight

Screw Type, 6000-Pound Test Cellar Control Gate

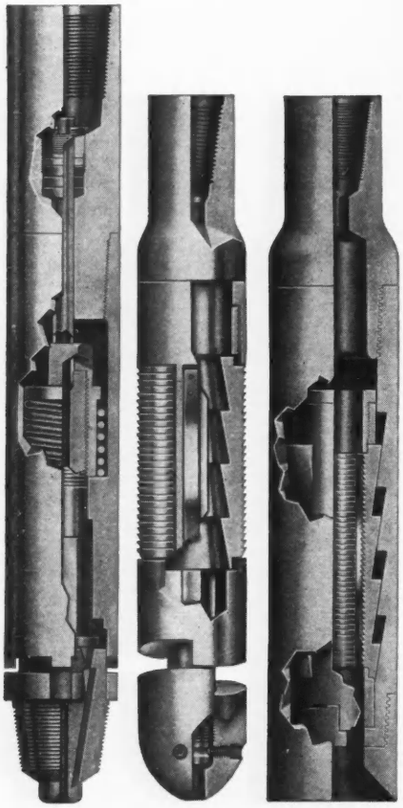


Spool Type Landing Heads

holes when a tool joint or coupling is up.

Shaffer rotary releasing spears are designed for removing casing or pipe; for setting liners, for holding jobs and for use with any type of rotary jar.

Shaffer rotary releasing sockets are designed for recovering drill pipe, casing, liners, tubing or any type of fish for which a socket may be used.



Shaffer Expanding Pin Tap | **Shaffer-Hamon Rotary Releasing Spear** | **Shaffer-Hamon Rotary Releasing Socket**

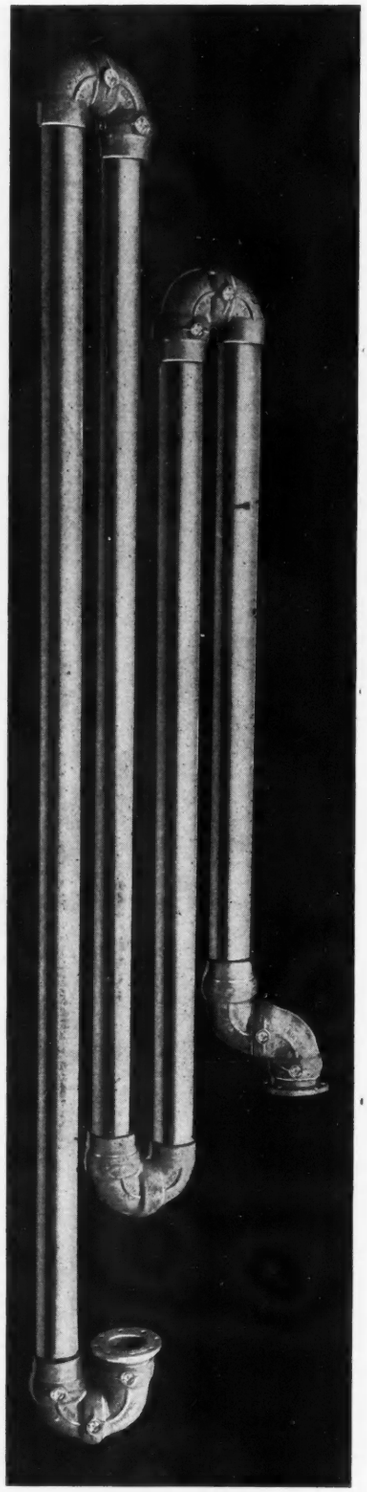
Chicksan Oil Tool Company, Ltd.

▪ ***Loading Hose***

Chiksan Oil Tool Company, Ltd., Fullerton, California, is displaying its new dock and loading rack equipment in a special aluminum heat-treated alloy design for handling petroleum products, under a safe working pressure of 500 pounds. The special alloy offers these advantages with safety: higher loading pressure, non-sparking, non-deteriorating, flexibility without injury, eliminating all fire hazards. This equipment, designed to transfer petroleum cargo, can now be furnished in 4-inch and 6-inch sizes, and in lengths to conform with other standard equipment. Standard lengths are 50 feet with 5 joints and 12 swivel points that insure the necessary flexibility. These swivel parts each rotate on a double ball bearing and are Alemite lubricated. The special designed oil and heat resisting packing sets have solved leakage problems.

A complete 6-inch x 50-foot transferring hose with standard flange ends weighs only 490 pounds and can be easily handled without crane equipment.

This new loading equipment is in addition to the company's line of all-steel flexible joint for refineries, dock risers and high-pressure rotary and cement hose.



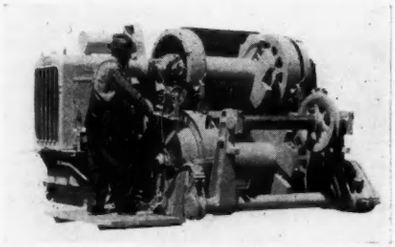
Chiksan Hose Dock

Allsteel Products Manufacturing Company

▪ ***Well Servicing Units***

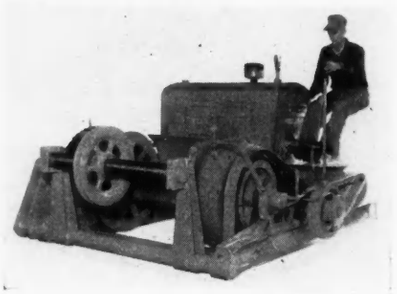
Allsteel Products Manufacturing Company, Wichita, Kansas, is showing a Model K double-drum oil-well servicing unit equipped with friction driven drums and with spudding attachment; a Model H single-drum oil-well servicing unit with spudding attachment; and a Model Q single-drum oil-well servicing unit; all which are skid type units and may be easily and quickly transported from one well location to another. They are also showing a single-drum oil-well servicing unit mounted on a "Caterpillar" Diesel Fifty Tractor. These tractor mounted units are available in four sizes, in single or double drum models, for gasoline or Diesel "Caterpillar" tractors.

Single-Drum Caterpillad mounted Allsteel well servicing unit



Model K double-drum well servicing unit

Features of the Allsteel oil-well servicing units are their portability, controls located within easy reach of the operator, fully equalized wedge-action brakes which



Model H single-drum unit

ERE ARE THE 7

LINK-BELT
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—use the one that fits your need

Link-Belt Chain for Every Drilling Service

Chain Number	Ultimate Strength, Pounds
SS-124, 3-Bar Hyper (API-4)	170,000
SS-124, 2-Bar Hyper (API-4)	130,000
SS-40 Hyper (API-3)	75,000
SS-40+ Red-Hed (API-3)	48,000
SS-124+ Red-Hed (API-4)	112,000
SS-40 (API-3)	28,000
SS-124 (API-4)	60,000

STOCKED IN ALL FIELDS

● The ratings here given are one thing — but there is something else — another value that the experienced chain-maker builds into his product. Mere observation does not reveal it. Actual performance brings it out.

It is that something which belongs to the art of chain-making and which Link-Belt — chain-makers for over 60 years — has acquired through honestly trying to make the best chains that money can buy.

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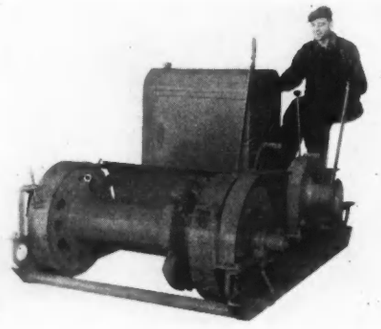
See Our Exhibit — Tulsa Oil Show — Texas Building

FIELD EQUIPMENT Featured at International Petroleum Exposition

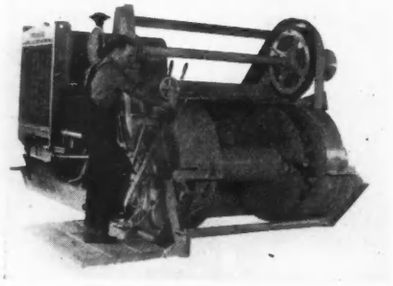


Allsteel Model Q Single-Drum Unit

provide more effective brake area than the conventional type, and trouble proof construction in which alloy steels, anti-friction bearings, and heat-treated parts to prevent wear are included. The range of models in Allsteel units provide a machine for servicing the shallowest to the deepest producer.

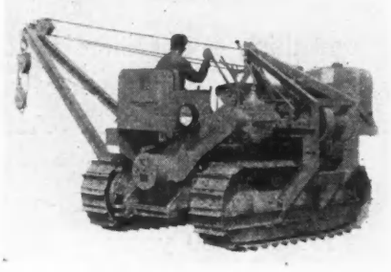
▪ *Draw Works Units*

A Model R draw works unit, powered by a Hercules HXE six-cylinder gasoline 172-horsepower engine is also exhibited. This unit has a friction-driven cathead shaft with self-aligning bearings, and friction-driven drum also mounted on self-



Allsteel Model R Drawworks

aligning bearings, the friction clutches for both drives being mounted on the countershaft. This draw works, as well as other models, is designed to be within the eight-foot road limit. It features drop forged, or heat-treated alloy steel parts at points of wear on the brakes and controls, and has anti-friction bearings throughout. These draw works units are built in five models for rotary drilling or servicing shallow or deep wells.



Allsteel Model PG Pipe Line Unit

▪ *Pipe Line Equipment*

Also on display is a Model PG live boom pipe line unit with wide gauge Model RD6 "Caterpillar" Diesel tractor. All operations of the side boom are controlled through a friction clutch, and greater lifting capacity is secured due to all the working mechanism being located on the opposite side of the tractor from the load to be lifted. Brakes on the drums are positive in action, so it is unnecessary to have a ratchet to hold either drum. There is a safety lock provided on the boom drum. It is possible to raise or lower the boom or the load while the tractor is in motion, and it is also possible to drop the load instantly in case the tractor should start to overturn. These live pipe line booms are built in four sizes for gasoline or Diesel "Caterpillar" tractors.

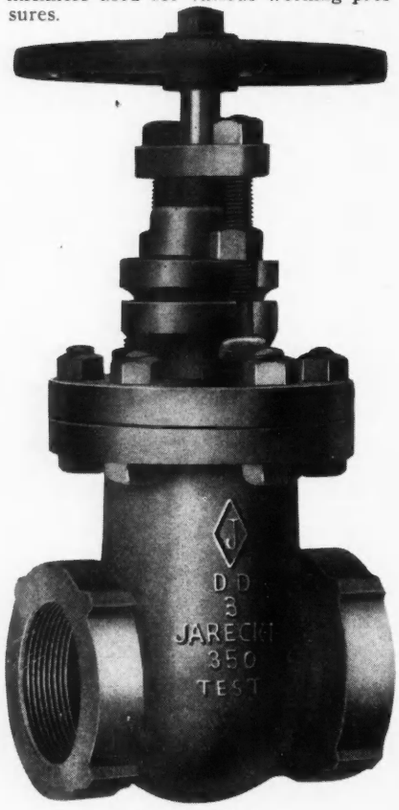
Jarecki Manufacturing Company

Jarecki Manufacturing Company exhibit is devoted principally to valves and fittings, specialties, and other products it manufactures or distributes.

▪ *Valves and Fittings*

Brass, bronze, iron body, and semi-steel gate and globe valves of all types and for all working pressures, have been cut sectionally to show the functioning of the various parts and the construction.

Cast iron and malleable iron pipe fittings, of Jarecki manufacture, both screwed and flanged, of all types and working pressures likewise will be shown cut sectionally to present the relative proportions of direct weights of fittings, and the wall thickness used for various working pressures.



Jarecki Valve

▪ *Pumping Equipment*

Jarecki pumping exhibit consists of a sucker-rod box cleaner, a device for removing the dirt and sand from the box end or coupling of sucker rods when running the rods into a well.

Another Jarecki pumping exhibit is a malleable iron pumping tee made for two-inch, 2½-inch and three-inch regular and upset tubing, and serves as a convenient connection between tubing, flow line, and stuffing box on a pumping well. No sub-nipples or bushings are required. All sizes of pumping tees have one-inch bleeder connections.

A new type threadless hinged-bell nipple is also on display. This bell nipple clamps about the band of the pumping tee instead of screwing into the threads.

The products of The Engineering Company, Tulsa, are found with Jarecki Manufacturing Company, and include sucker rod hangers and sucker rod shock absorbers.

Jarecki's pumping unit, manufactured by American Steel Derrick Company, is in operation in an outdoor exhibit of American Steel Derrick Company. This pumping unit is being operated by a gas engine and incorporates a number of new and novel features.

▪ *Erie Compressor Unloader*

The Jarecki Erie Unloader is also being shown. It is an air-compressor unloader used to maintain a constant output pressure on the air compressor.

▪ *Mechanical Rubber Goods*

The display of Hewitt Rubber Corporation, Buffalo, for whom Jarecki Manufacturing Company distributes, consists of all kinds of mechanical rubber goods. It demonstrates the difference in construction of straight edge and folded edge belts, various ply thickness and widths available, as well as samples of rubber hose and packings used in the oil industry, with notations showing where and how each type is used.

▪ *Other Products*

Other equipment displayed at the Jarecki Manufacturing Company booth includes the following: Berry pattern casing head; Union Wire Rope Corporation wire rope products; and Jones & Laughlin Steel Corporation tubular goods.

Jarecki Pumping Unit

FIELD EQUIPMENT Featured at International Petroleum Exposition

American La France and Foamite Industries

▪ *Fire Extinguishers*

The American La France and Foamite Industries, Inc., Elmira, New York, is exhibiting a complete line of all types of fire extinguishers and engines, dry-powder foam equipment—both single and dual and its new Foamite Applicator and Inverted Alfite (carbon dioxide) system.

▪ *Foamite Applicator*

The new Foamite Applicator is an aluminum foam pipe with a goose neck at one end and a foam connection at the other. It can be adjusted to the height of the burning tank. At the time of fire, it is raised quickly and easily until the goose neck hooks over the shell, into the manhole, or through a hole in the roof.

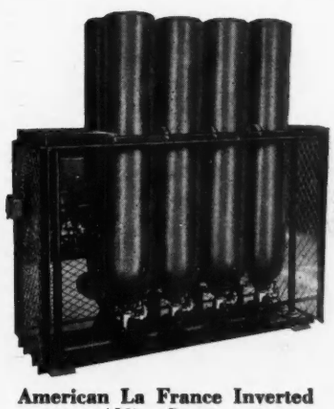
The Foamite Applicators are made for both single and dual powder operated. It is light in weight, the 40 foot single applicator weighing only 168 pounds. Three men can readily raise and put it into operation. It can be quickly disassembled and transported on any truck or apparatus.

▪ *Inverted Alfite System*

Instead of being placed upright as usual, the cylinders in the Inverted Alfite System are mounted valve downward on trunnions and are operated by the force of gravity. When the battery is operated, each cylinder drops a short distance, banging down with the full force of its 160 pounds plus impact on the cutter knob, thus piercing the gas sealing disc. Installation and replacement merely involves setting the cylinder on its trunnion and making but one flexible connection by means of a union.

Due to the novel method of support and the fact that the connectors between the cylinder and manifold are flexible, each cylinder can be weighed in place by the Alfite weighing device without disconnecting or removing it from the battery. Thus, periodic inspection is made easy.

For inspection purposes, the new system can be actually operated without discharging a pound of gas. In this operation, safety clips are attached to the cutter rods. All cylinders of the battery are then operated exactly as they would be in case of fire except that the discs are not cut. The regular plant maintenance crews can make a complete working inspection, operating all moving parts, without loss of gas.



American La France Inverted Alfite System

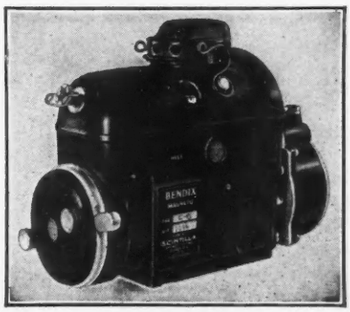
As the operating mechanism is always visible it is easy to see when the system has been discharged. When the cylinders are in the "up" position the system is charged and ready for action. When they have been dropped and are in the "down" position (with the safety clips off) the system has been discharged.

A carbon dioxide system consists of a battery of 50 pound steel cylinders containing liquid carbon dioxide gas under its own pressure. By means of piping leading to nozzles properly located in the area protected, carbon dioxide gas is supplied and distributed properly throughout the risk.

Scintilla Magneto Company

▪ *Magnetos*

Scintilla Magneto Company of Sidney, New York, displays Scintilla and Bendix ignition magnetos for all kinds of gas and gasoline engines. A special feature is a magneto operating in an "explosion chamber" filled with inflammable gas. This gas periodically ignited by means of a spark plug, bursting a paper diaphragm to demonstrate the inflammability of the mixture.



Scintilla Magneto

Oakite Products, Inc.

▪ *Cleaning Compounds*

Oakite Products, Inc., New York, is showing a moving panorama of producing, refining and transportation equipment illustrating the need of each unit for effective cleaning at periodic intervals. The exhibit stresses cleaning of production and refining equipment, the cleaning of water jackets of Diesel and gasoline engines, the restoration of heat transfer to oil coolers and heat exchangers, cleaning of storage tanks, tank cars, tank trucks and service station equipment. Steam cleaning, because of its suitability for a wide range of applications is being given special attention by showing both the materials and required equipment doing work of this nature economically and thoroughly. Avoidance of fire hazards is also being featured. Oakite materials when used in water solutions, is said to definitely guard against conditions conducive to either fire or explosion.

The Johnston & Jennings Company

OCECO DIVISION

▪ *Tank Equipment*

The Johnston & Jennings Company, Oceco Division, Cleveland, Ohio, is displaying full line of tank equipment, including the combination flame arresters and vent valve, the Oceco Meter, swing line equipment and tank gauges. Also included are gauge and thief hatches, roof manheads, gauge wells, safety tank winches, cable sheave brackets, swing joints, steel tank nozzles, pipe couplings and rotary pumps.

▪ *Vents*

The Oceco vents are designed to control tank breathing by preventing the free circulation of air, and to protect the tank against excessive pressure or vacuum and minimize evaporation losses. They are used on all types of tanks, especially storage and barge tanks. They are furnished either with or without a flame arrestor in a wide variety of sizes to meet any tank requirement and any pressure.

▪ *Flame Arresters*

Oceco flame arresters have full Underwriter's approval. They have vertical straight-through passages that minimize entrainment. The flame arresters are furnished as single units or in combination witth vent valves and flame snuffers. Sizes to meet any tank requirement and any pressure are available.

▪ *Swing Line Equipment*

Oceco fittings for swing lines are designed to meet the requirements of practical, rather than theoretical operation, it is said. The equipment consists of a steel nozzle, a heavy-duty swing joint that will not twist or break, a gas-tight stuffing box and cable sheaves that are mounted on the tank top and winch. Winches can be mounted on the tank or on the fire bank. They are worm geared, self locking, to hold the cable in any position.

▪ *Tank Gauges*

Oceco tank gauges permit taking accurate tank readings without relieving the pressure or exposing the gaugers to fumes. They can be installed on existing tanks or new tanks. Readings on Type 8 gauge are taken from the tank top. Readings on type 14 are taken from the ground. Both types are of non-corrrosive construction and fitted with plate glass windows and wiper to insure clear vision. Standard sizes are adapted for use on tanks ranging from less than an ounce to 75 pounds pressure.

▪ *Meters*

The Oceco positive displacement meter is said to provide accuracy in the measurement of any transfer. They are unaffected by variations of pressure, viscosity, temperature or wear and can be used with any petroleum product ranging from lubricating oil to finished gasoline and without recalilbration. The meters are furnished calibrated and sealed and do not require adjustment in the field.

It's better to buy the best . . .

Play safe, be sure. Consider transmission belting with all the care it deserves. Specify HEWITT. Forward looking plant officials do not depend on miracles to achieve operating economies — they compare performance, check costs. And in these plants, HEWITT transmission belting has become an essential part of their program. Whatever your service demands, there is the right type of HEWITT belting available. Get in touch with a HEWITT distributor and talk it over with him secure in the knowledge you will get honest value . . . longer, more satisfactory service at a lower cost. HEWITT distributors are listed in the classified telephone directories of major industrial centers under "Rubber Goods" or "Belting".

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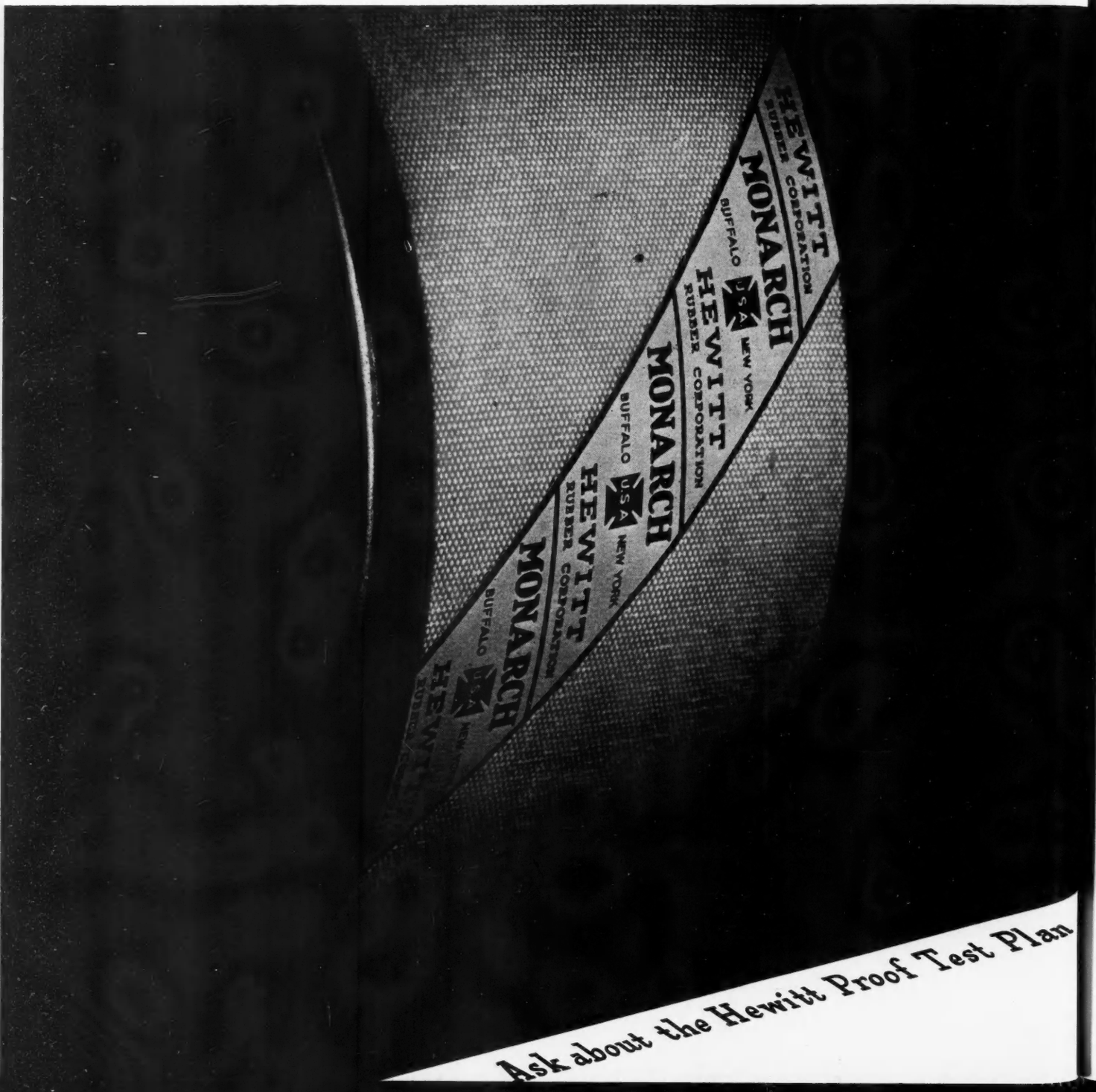


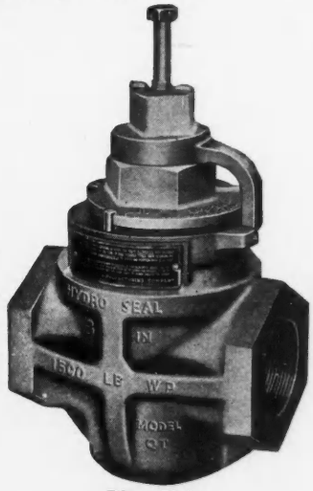
MacClatchie Manufacturing Company

MacClatchie Manufacturing Company of Compton, California, is exhibiting, with Continental Supply Company, its entire line of drilling and production specialties.

▪ *Hydro-Seal Plug Valve*

The "Hydro-Seal" feature of the plug valve shown is the expansible metal lip formed by machining an undercut peripheral groove in the steel plug near its end. It is expanded by grease applied by a pressure screw. The lip co-operates with a pressure ring to seal the plug, with expansion of the metal lip engaging only its razor-edge with the wall of the body to obtain a tight seal with minimum friction. In high pressure models, where the line pressure might otherwise so retract the tapered plug from its tapered bore as to permit the film of lubricant being washed away, an adjusting nut having limited turning movement longitudinally shifts the plug a predetermined distance in either of opposite directions, and the operator turns the adjusting nut in the direction for loosening the plug only in the event of the plug being tightly stuck. The adjusting nut is clearly marked so that the operator will be sure to always turn it back to its opposite limit of movement before the valve is put into use, thereby moving the tapered plug into the bore of the body only such distance as will provide the proper annular space between the plug and the body for maintaining the correct film of lubricant for preventing leakage around the plug.

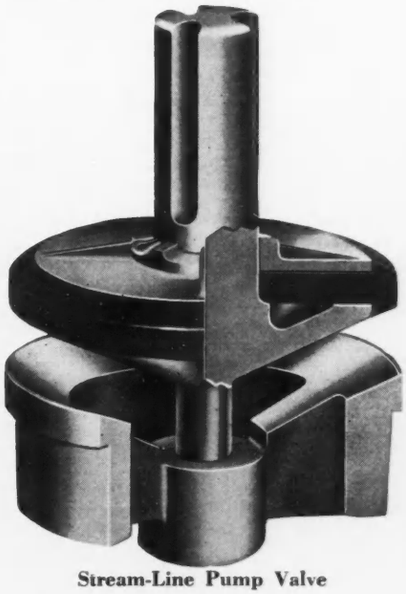
The "Hydro-Seal" plug valve exhibited is made in various models—250 pounds working pressure to 3000 pounds working pressure; ½-inch to 20-inch; screw, flange or union ends; hand or gear operated.



Plug Valve

▪ *Stream-Line Pump Valve*

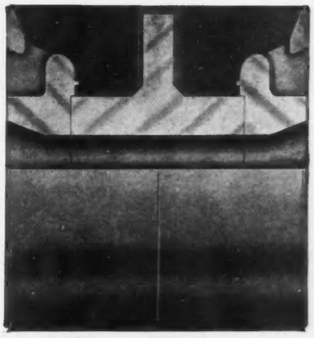
The seat and the valve proper of this item of MacClatchie's exhibit are each of solid, one-piece construction, and the metal of the seat takes the entire blow with the rubber insert providing the fluid-tight seal. The stream-line cross-bar provides additional striking area for longer wear, but has no flat surfaces or abrupt shoulders obstructing flow of fluid or leaving any place for sand to collect to impair proper closing of the valve. The rubber insert when worn out on one side may be readily reversed for additional wear.



Stream-Line Pump Valve

▪ *Wearever Piston*

The "Wearever" piston being displayed has a steel body and center spool, with renewable rubbers and heavy new type end plates. The rubbers are cup-rubbers, each molded to a brass reinforcing plate, and overlying the end plates and the center spool, so that nothing but rubber and narrow rings of soft brass engages the liner. On the pressure stroke the center spool longitudinally backs up the cup-rubber, the lip of which responds instantly to impulse for effectively sealing against the cylinder wall. On the suction stroke the end plate forms a backing for the lip of the cup, allowing the cup to yield only enough to reduce friction, but preventing such contraction of the lip as would permit sand and grit to lodge between the piston and the cylinder wall, the manufacturer claims.



"Wearever" Piston

▪ *Piston Rod*

MacClatchie rods are hardened, ground rods of special ball-race steel, with any desired taper or universal end, and with patented elastic stop nuts which by their frictional grip on the rods prevent pistons working loose. MacClatchie special taper, which can be furnished for any rod, allows the rod to grip the piston so as to maintain a fluid seal and keep the piston tight.

Pump Liner

At right: MacClatchie Special Tapered Rod

▪ *Pump Liner*

A detachable gland is slipped on the liner proper and clamps the liner in the pump cylinder, dividing handling weight and frictional resistance between the liner proper and the separately installed gland. A rubber packing ring is mounted on the liner proper to pack off between the liner and the cylinder wall.

The liners, called "Money-Savers," are made of special alloy seamless steel tubing. The tubing for all sizes of liners is of uniform thin wall.

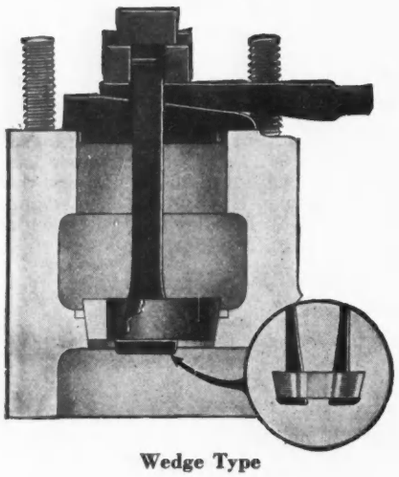
▪ *Valve Seat and Liner Pullers*

The "Wedge Type" puller exhibited by MacClatchie is for all types of valve seats, the legs being hooked under the seat and the top wedge being then driven in with a sledge, so that the tightest seat may be pulled by two or three blows.

The "DeLuxe Type" puller is for cross-bar valve seats. This puller is inserted in the valve seat straddling its cross-bar and is then turned so as to hook under the cross-bar. The adjusting nut is screwed down tight with the wedge withdrawn so as to take up all slack, and the wedge is then driven in by the blows of a sledge, with the slight taper of the wedge insuring a powerful pull or jar.

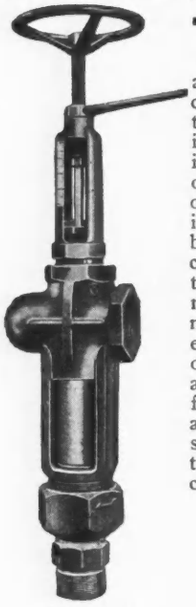
The "liner" puller may be used for

FIELD EQUIPMENT Featured at International Petroleum Exposition



Wedge Type

pulling either pump liners or valve seats which have no center obstruction. The slips being in position, the nut is rotated to seat the slips and provide a powerful pull for withdrawing the most stubborn liner, with the ball race under the nut eliminating excessive friction.

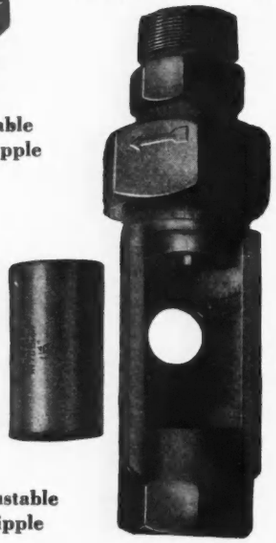


Adjustable Flow Nipple

▪ *Flow Nipples*

The "Non-Adjustable" flow nipple includes a cage which is threaded for mounting in a flow line, and in which flow beans of different orifice opening from 7/32 inch to 1¾ inch may be interchangeably clamped, simply by tightening a retaining nut. The nipples are manufactured with either 2-inch, 3-inch, or 4-inch pipe thread, and the beans of different orifice opening all have the same outside diameter so that they many be interchangeably mounted in a nipple which has any of these different threads. The beans are plainly marked to indicate orifice opening, and any bean may be re-drilled to provide a larger opening.

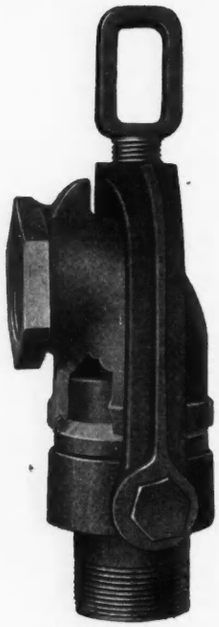
The "adjustable" flow nipple adjusts the flow orifice by screwing a needle point into or out of a venturi tube; and the venturi tube may be readily replaced when worn, by simply retracting the adjusting needle and loosening a lock nut.



Non-Adjustable Flow Nipple

▪ *Quick Union*

MacClatchie's quick union consists of an elbow, a nipple and a yoke. The elbow has an internal shoulder grooved to receive a hydraulic packing ring, and the nipple has an external shoulder which seats against the packing ring and against the shoulder of the elbow.



Quick Union

The yoke comprises a ring mounted on the nipple, with a bail pivoted to the ring. The union fits between one hose and another, between two pipes, or between a hose and a pipe. It may be used on cement heads, circulating heads, rotary swivels, suction lines, standpipes, fire hydrants, loading racks, tank cars.

▪ *Quick Change Cement Head*

This cement head may be installed in less than 30 seconds and can be removed in even less time, it is claimed. It is secured in place by turning a nut on a mandrel so as to anchor slips and expand a packing rubber. Pressure in the casing tends to tighten the rubber and thus insure a fluid-tight seal. The head may be removed or replaced with the casing in motion, eliminating the necessity of setting slips or removing elevators; and may be used not only for cementing, but for circulating or "washing in" casing.

The head is made for all sizes of casing, with each head adjustable to operate in all weights of the size of casing for which it is intended.

Quick Change Cement Head

▪ *Automatic Rotating Blowout Preventer*

The automatic rotating blowout preventer on display is designed for drilling under mud or gas pressure, with the body mounted on the casing and with a packer mounted on the kelly and held in place in the body by locking dogs, which are retracted by a pull on the handle. The packer includes a packing assembly and a swivel, with the packing assembly rotatable with the kelly and the swivel providing antifrictional bearings for the packing assembly. The packing merely idles in its grooves until pressure is encountered, and is then automatically expanded by the pressure to provide a tight seal. The packing is constructed on the cup principle so as to tighten in accordance with the pressure.

Rotating Blowout Preventer

Foundation for Successful Drilling

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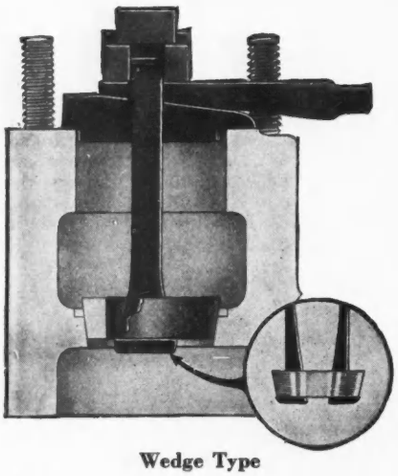
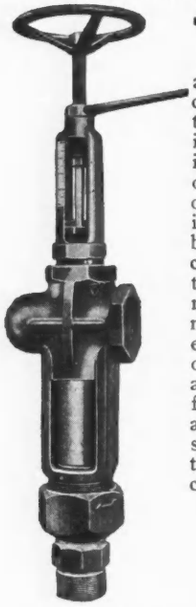
AMERICAN ROLLER BEARING CO. • PITTSBURGH, PA.

FIELD EQUIPMENT Featured at International Petroleum Exposition



Wedge Type

pulling either pump liners or valve seats which have no center obstruction. The slips being in position, the nut is rotated to seat the slips and provide a powerful pull for withdrawing the most stubborn liner, with the ball race under the nut eliminating excessive friction.

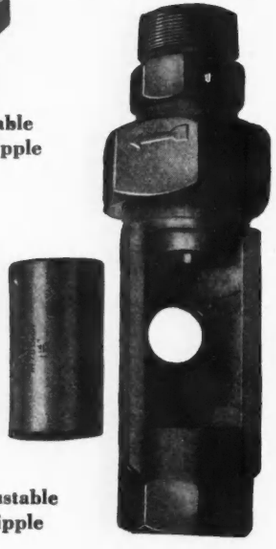


Adjustable Flow Nipple

▪ *Flow Nipples*

The "Non-Adjustable" flow nipple includes a cage which is threaded for mounting in a flow line, and in which flow beans of different orifice opening from 7/32 inch to 1¾ inch may be interchangeably clamped, simply by tightening a retaining nut. The nipples are manufactured with either 2-inch, 3-inch, or 4-inch pipe thread, and the beans of different orifice opening all have the same outside diameter so that they many be interchangeably mounted in a nipple which has any of these different threads. The beans are plainly marked to indicate orifice opening, and any bean may be re-drilled to provide a larger opening.

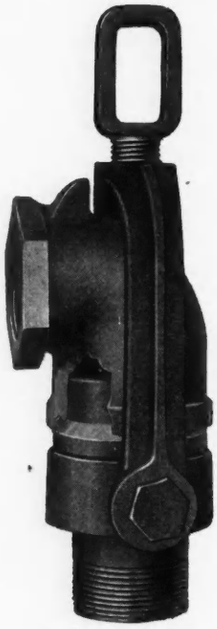
The "adjustable" flow nipple adjusts the flow orifice by screwing a needle point into or out of a venturi tube; and the venturi tube may be readily replaced when worn, by simply retracting the adjusting needle and loosening a lock nut.



Non-Adjustable Flow Nipple

▪ *Quick Union*

MacClatchie's quick union consists of an elbow, a nipple and a yoke. The elbow has an internal shoulder grooved to receive a hydraulic packing ring, and the nipple has an external shoulder which seats against the packing ring and against the shoulder of the elbow.



Quick Union

The yoke comprises a ring mounted on the nipple, with a bail pivoted to the ring. The union fits between one hose and another, between two pipes, or between a hose and a pipe. It may be used on cement heads, circulating heads, rotary swivels, suction lines, standpipes, fire hydrants, loading racks, tank cars.

▪ *Quick Change Cement Head*

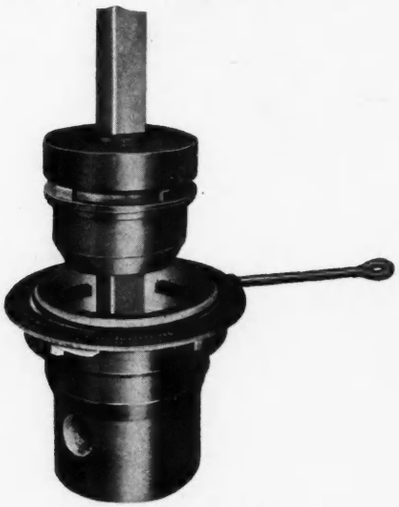
This cement head may be installed in less than 30 seconds and can be removed in even less time, it is claimed. It is secured in place by turning a nut on a mandrel so as to anchor slips and expand a packing rubber. Pressure in the casing tends to tighten the rubber and thus insure a fluid-tight seal. The head may be removed or replaced with the casing in motion, eliminating the necessity of setting slips or removing elevators; and may be used not only for cementing, but for circulating or "washing in" casing.

The head is made for all sizes of casing, with each head adjustable to operate in all weights of the size of casing for which it is intended.

Quick Change Cement Head

▪ *Automatic Rotating Blowout Preventer*

The automatic rotating blowout preventer on display is designed for drilling under mud or gas pressure, with the body mounted on the casing and with a packer mounted on the kelly and held in place in the body by locking dogs, which are retracted by a pull on the handle. The packer includes a packing assembly and a swivel, with the packing assembly rotatable with the kelly and the swivel providing antifrictional bearings for the packing assembly. The packing merely idles in its grooves until pressure is encountered, and is then automatically expanded by the pressure to provide a tight seal. The packing is constructed on the cup principle so as to tighten in accordance with the pressure.



Rotating Blowout Preventer

Foundation for Successful Drilling

AMERICAN

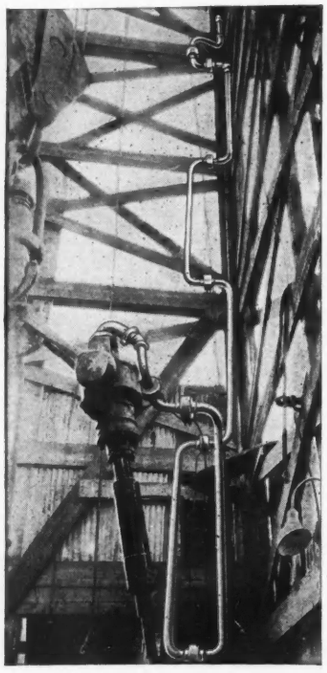
Heavy-Duty ROLLER BEARINGS

AMERICAN ROLLER BEARING CO. • PITTSBURGH, PA.

FIELD EQUIPMENT Featured at International Petroleum Exposition

▪ *All Steel Rotary Hose*

The steel hose shown is said to be flexible under high pressure, to allow unobstructed flow with gradual hydraulic bends and no sharp corners, to be leak-proof, and to be easily controlled. The hose is made up of lengths of hydraulic steel pipe and hardened



All Steel Rotary Hose

nickel steel unions strung on a half-inch steel cable, with hardened steel ball-bearings in each union. Each union has a double seal, with one packing ring between the fluid and the ball race. Another packing ring seals the lubricant which is forced into the ball chamber through an Alemite connection. The steel rotary hose is furnished in 2, 2½, 3 or 4-inch size, with the complete assembly comprising any desired number of hose lengths.

▪ *Rotary Underreamer*

Four streams of circulation in back of each cutter in this reamer accomplish the important function of lubricating and cooling the cutters and washing away the cuttings. Expanding and contracting the cutters is automatic, being in no way dependent upon pump pressure, springs or casing shoe. A fractional turn of the drill string to the left closes the cutters, and right-hand rotation of the drill pipe opens them. When the cutters have cut away the formation so as to allow them to fully expand, the operator is assured of maximum reaming as long as right-hand rotation is continued.

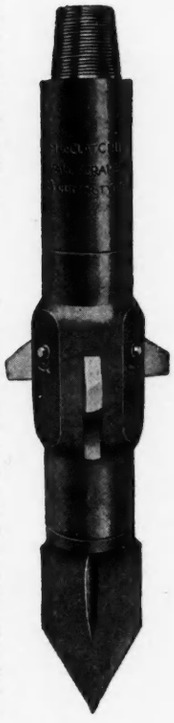
▪ *Straight Reamer and Guide*

MacClatchie's "Economy" straight reamer and hole guide is a reamer with blades which have a slicing action and which in semi-soft digging do not merely push back the formation. The cutter does not rotate on the body but turns with the body, and consequently there is no wear except at the numerous sharp, slicing, cutting blades of the large diameter cutter. The cutter when worn is renewed simply by disconnecting the sub and sliding the worn cutter off the body and replacing with a new cutter. In addition to its use as a reamer, the tool is claimed to be efficient for running as a straight hole guide.

Rotary Underreamer **MacClatchie Reamer**

▪ *Hydraulic Wall Scraper*

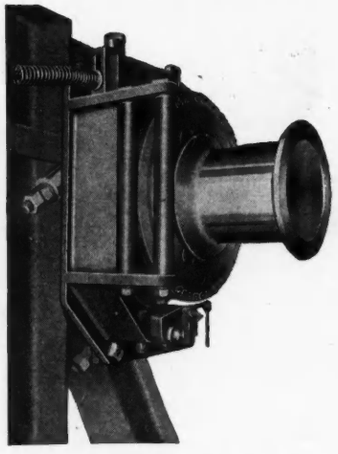
Three-point cutting contact avoids gyrating and thereby insures a true cylindrical bore and eliminates vibration and whipping of the drill pipe, according to claims made for MacClatchie's hydraulic wall scraper. Circulation openings are provided in back of each cutter as well as at the pilot bit. The cutters are expanded by hydraulic pressure and are spring retracted. A tell-tale is provided, functioning only when the blades have been fully expanded and thus acting as a warning to prevent the scraper being used with the blades only partially projected.



Wall Scraper

▪ *Gearomatic Cathead*

The "Gearomatic" cathead displayed operates on a new principle, the driving connection being geared to give twice the power at half the speed. A drive gear is keyed to the line shaft, and pinion gears mesh with the drive gear and are journaled in a pinion spider which revolves around the drive gear. A sheave, free to rotate on the spider, has an internal gear which meshes with the pinion gears. When the spider revolves the pinion gears idle by rotating on their axes, so that the sheave remains stationary; and when a joint is to be broken, the spider is held against turning, so that the pinion gears rotate the sheave to wind the cable. At the end of the stroke, a cam on the sheave automatically re-



"Gearomatic" Cathead

leases the snider so that it is again free to revolve, thus permitting the pinion gears to idle again, thereby disengaging the driving connection, whereupon friction of the gearing returns the sheave to its original position.

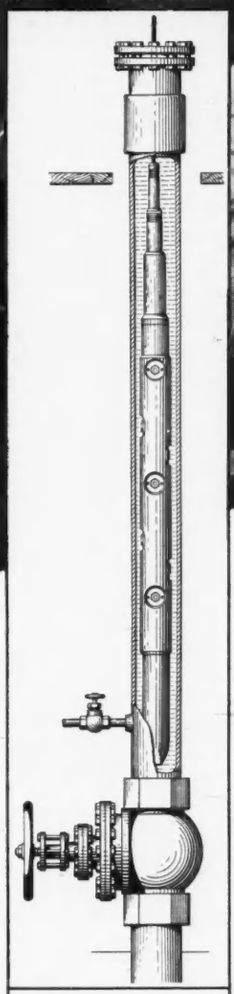
▪ *Fingerboard*

MacClatchie is showing a fingerboard which works automatically. If struck by the blocks from either above or below, the end of the finger auto-

NO 4

. . . of a Series of Gun-Perforator Applications

Gun-Perforate SAFELY IN HIGH PRESSURE STRATA BY USING PRESSURE PACKING GLAND



Typical well control equipment with our Pressure Packing Gland on top . . . Customer furnishes master gate, stand-pipe with bleeder valve and adapter to our gland when required.

Says "Perforating Pete":

"The fitting you're looking at is the answer to your question about whether Gun Perforator Service is safe under high pressure conditions. It's our Lane-Wells Pressure Packing Gland, which we furnish at no extra charge whenever surface pressure control is necessary or advisable.

"We've used this gland with complete success while Gun-Perforating wells where the pressure was a good 2000 pounds per square inch MORE than the hydrostatic pressure obtainable by filling the hole with fluid as an offset medium.

"There are three common well conditions where this gland will meet your requirements to a 'T':

"First, where the formation pressure is too great to be controlled by filling the hole with water or heavy drilling mud.

"Second, where mud cannot be used, either because of the nature of the formation or because the screen you're using is of such a fine mesh that the mud would clog it.

"Third, in wells where the weight of the drilling mud trapped in back of your casing equals or exceeds the weight obtainable by filling the casing with mud.

"So don't hesitate for a minute to use Gun Perforator Service on your high pressure wells. With this gland as a safeguard it's only a matter of every-day routine to our Gun-Perforator crews."

Devices and method of operation licensed by Technicraft Engineering Corp. under Patents No.— 1,582,184; 2,029,454; 2,033,562; 2,029,478; 2,029,491; 2,029,490.

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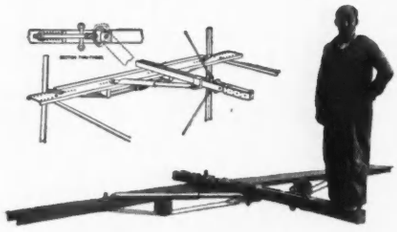
FIELD EQUIPMENT Featured at International Petroleum Exposition

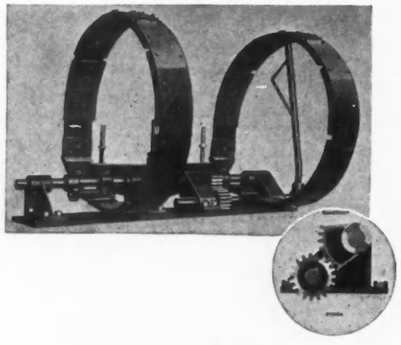
matically swings so that the blocks may pass without damage to the finger, and when the blocks have moved clear of the finger its swing end is automatically returned to its normal position.



MacClatchie Fingerboard

▪ *Geared Brake*

There is also on display a brake which is geared to afford double leverage—providing a powerful brake which prevents brake lining overheating, it is claimed. The design of this brake features compounding against "kick-back."



Geared Brake

▪ *5 in 1 Blowout Preventer*

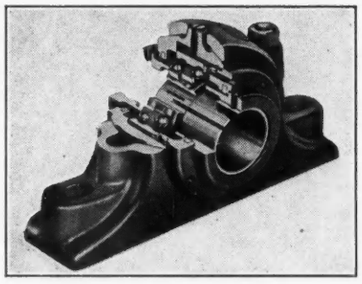
A blowout preventer being shown by MacClatchie is said to be equally capable of packing off around the drill pipe, kelly, kelly sub, tool joint, or drill collar, without changing a single part of the blowout preventer. The packing assembly works on the same principle as a piston in a pump liner, with fluid pressure expanding cup rubbers against the walls of radial cylinders and then moving the cup rubbers along the clyinders and projecting them into the bore of the casing so as to close around the drill string, and with the fluid pressure then expanding and distorting the bottoms of the cup rubbers so as to tightly seal around any part of the drill string, whether round or square. Only the cup rubbers come in contact with the drilling fluid.

Fluid pressure is utilized to retract the cup rubbers in their cylinders, leaving an open bore through which drill string, bits or casing may be run.

Ahlberg Bearing Company

▪ *Pillow Blocks*

Ahlberg Bearing Company, 317 East 29 Street, Chicago, Illinois, has on display three lines of ball bearings, but features the new ball bearing pillow blocks.



Ahlberg Pillow Block

The pillow blocks have a new method of locking the bearings to the shaft, and are available in two types having a total of nine capacities for a given shaft size. They range from the lightest high speed units to the heaviest.

▪ *Ground Bearings*

Ahlberg Bearing Company also displays at the exposition ground bearings which have been reconditioned to standards of new ball bearing manufacture. Ball tracks of worn bearings are ground and polished to provide new surfaces. Oversize balls and a new ball retainer are fitted, making the complete bearing approximate the condition of a new one.

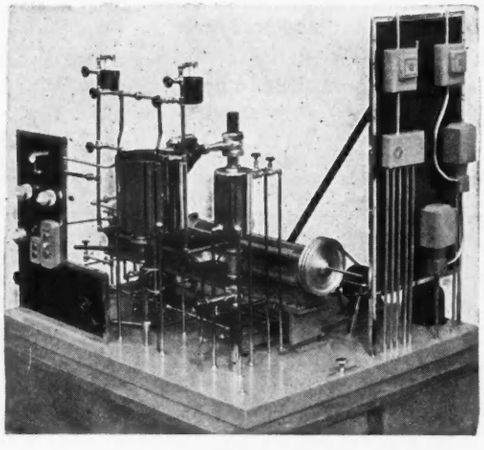
▪ *Ball Bearings*

The third line of display at this booth consists of CJB Master ball bearings, which are claimed to be precision made. They are exhibited in standard single row, angular contact double row, and self-aligning types.

Baroid Sales Company

▪ *Drilling Muds*

Baroid Sales Company, Los Angeles, Houston and Tulsa, is showing at the Ninth International Petroleum Exposition, a model of the filter press or mud performance tester built recently in the company's Los Angeles laboratories. This filter press duplicates, as nearly as possible, bottom-hole conditions with regard to temperature and pressure and determines the results of the actions thereof on drilling muds.



Baroid Filter Press

The company is also exhibiting a model of field service car. These cars are completely equipped to enable Baroid service engineers to make all necessary tests right at the well. The cars carry both Stormer and Funnel viscosimeters; a Mudwate hydrometer; screens for determining sand content; a centrifuge and Wulff pH outfit for determining the acidity or alkalinity of the mud; an electric hot plate and evaporation dish for determining the percentage of solids, and all other necessary equipment for the complete testing of mud at the well.

Tnemec Company, Inc.

Tnemec Company, Incorporated, Kansas, City, Missouri, is exhibiting for oil industry coatings a line of paints for protecting tank interiors against sour crude, for protecting steel against rust, for coating underground pipes, and for galvanized iron and other purposes.

▪ *Portector Against Sour Crude*

Tenemetank No. 469, originally developed for combatting sour crude, is a new type coating for steel tank interiors. It is applied after the tank is erected, and produces a thick, leather-like coating which bonds with the clean steel surface.

Originally developed for the "sour crude" areas, it is now recommended by the manufacturer for all steel tankage, due to the protection against all types of corrosion. It is claimed Tnemetank is especially effective for reclaiming old steel tanks which have developed small leaks, as the thick coating plugs small holes..

▪ *Primer*

Tnemec No. 6 Red primer is a special priming coat for steel which protects the steel surface from outside corrosive attack and kills any existing rust germ already on the steel, it is claimed. This is done by a chemical action which transforms the rust or ferric oxide into harmless calcium ferrite..

Super-Tnemecol, for underground pipe lines, is a new protective coating for use as a finish coat on pipe lines in combination with Tnemec No. 6 red primer.

Tnemec industrial coatings, due to a patented feature, form an especially tight bond with all types of iron or steel surface, including galvanized steel, the manufacturer claims.

M.I.W. STEEL DERRICKS

A thing of BEAUTY and.. .... *a PRACTICAL JOY to DRILLERS*

"MIW 120', 537,000 lb. capacity, on 7' substructure, sold to Jack Frazier and being used on the Hermann Hospital lease fifteen miles from Houston."

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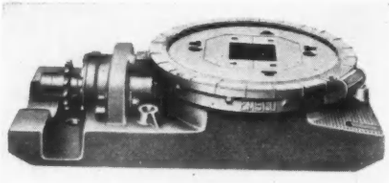
FIELD EQUIPMENT Featured at International Petroleum Exposition

Emsco Derrick & Equipment Company

▪ *Rotary Machine*

Emsco Derrick & Equipment Company, Los Angeles, is displaying its line of equipment, including the Emsco Type H-27½ rotary machine. It is totally enclosed for the purpose of excluding all mud, dirt and water and to provide ample bath of clean lubricating oil for the working parts.



Emsco Type H-22½ Rotary Table

The base is a heavy one-piece steel casting, making possible a very low table, and considerably simplifies the design of the machine. Two lifting hooks are provided on the table end of the skids. These hooks can be folded back out of the way and present no obstruction when the table is in use. The hooks swivel on large pins with bearing surfaces at each end.

The housing is an integral part of the base and insures perfect alignment of the bearings at all times. The housing also serves as a guard over the pinion shaft lock and pawls.

▪ *Emsco Type "D" Rotary Swivel*

The new Emsco Type "D" oil-cooled rotary swivel with air-cooled wash pipe stuffing box incorporates many new improvements.

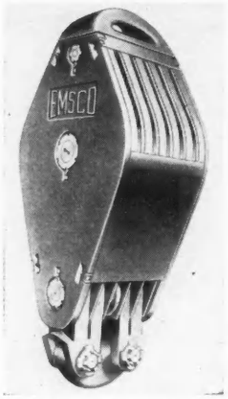
The wash pipe is 4-inch I.D. and rotates with the sleeve, assuring perfect alignment. One major feature is the air-cooled wash pipe stuffing box. The stuffing box is easily removed in order to change the packing and is lubricated externally by grease gun.

The "V" type packing remains stationary and is in direct contact with the wall of the stuffing box, which is provided with cooling fins to assure rapid dissipation of heat generated.

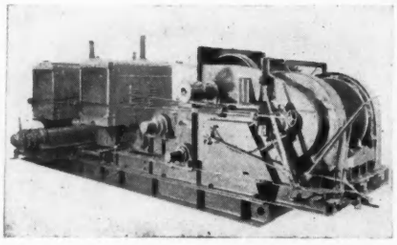
The sleeve is designed to permit easy removal from the swivel without removing the coupling. The coupling is made with standard tool joint pin. A special rubber seal is inserted internally between the coupling and the sleeve to prevent any possibilities of leakage.

A mud deflecting cap rotating with the sleeve prevents any mud that may leak down through the packing from entering the body of the swivel.

Type D Swivel



Emsco Traveling Block



Emsco Portable Drilling Machine

▪ *Emsco Portable Drilling Machines*

Emsco portable 46-inch 4-speed rotary drilling machines are composed of seven separate units, combined to make a compact, efficient, as well as an easily transportable unit. The complete unit, without pump, can be moved in two sections or, to further facilitate ease in transportation, the drilling machine, the reverse and friction clutch, the two motors, the countershaft and the base, which is of two unit construction, may be easily removed and handled separately. By compounding the two motors, heavier drilling strings are handled with ease and are kept in perfect control by the driller at all times by the synchronized, trombone type throttle, conveniently mounted at the driller's standard position, being the same type of throttle found on the old type steam engine drive. A special connection is provided for operating motors independently.

When drilling, one motor operates rotary machine through a reverse and friction clutch and second motor operates the pumps through a countershaft.

▪ *Roller Bearing Traveling Block*

Emsco's latest development in traveling block design is the 76-inch roller bearing model in which the sheaves are made from manganese steel and are 42 inches in diameter, as compared to 36 inch diameter sheaves used in Emsco's 66-inch traveling block.

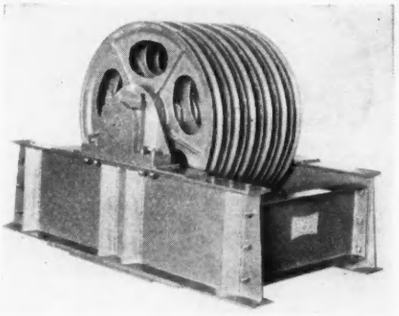
Sixteen hardened and ground chrome vanadium steel rollers, ground to a diameter of 1¼ inches are provided for each sheave. The patented roller assembly includes a bronze cage of special design to allow the rollers to rotate the entire width of the sheave hub. The rollers rotate on nickel molybdenum, hardened and ground races, shrunk on the center pin.

The center pin is 8 inches in diameter and is a hardened chrome nickel steel forging with hardened and ground nickel molybdenum steel races. Alemite fittings are provided at each end of the pin to lubricate the rollers.

The detachable bottom clevis eliminates the necessity of removing the bottom pin and dropping the entire clevis and spacers out of the block when attaching the swivel bail or other equipment. Another important advantage with this style clevis is to facilitate reeving. It is an easy matter to swing the clevis over against the side plate allowing the block to stand on end. From this position it is possible to reeve the lines in a much speedier and more efficient manner than when it is necessary to suspend the block in mid air.

▪ *Type EC Crown Block*

The Type "EC" 300-ton crown block is of single-deck construction. Simplicity and strength are outstanding characteristics, and special care has been taken to insure maximum safety to the drilling crew. American super heavy duty roller bearings assure long life and greater speed. The 48-inch diameter manganese steel sheaves conform to A.P.I. specifications and the rope grooves are ground to size to reduce wear on the wire line. Grooves can be either 1-inch, 1⅛-inch, or 1¼-inch line as specified. The sheave pin is 9-inch diameter made of 3245 SAE chrome nickel steel forging, heat treated, with 10½-inch diameter hardened and ground steel races shrunk on the pin and with Alemite fittings on the ends to provide individual lubrication to each roller bearing. Two chromium plated thrust washers are assembled between adjacent sheaves to take the end thrust.



Emsco Type EC Crown Block

▪ *Type GC Crown Block*

The Tyle "GC" 350-ton crown block is of double-deck construction of the crossover sheave type and is intended for straight rotary drilling. As in the "EC" crown block, a thorough field study was

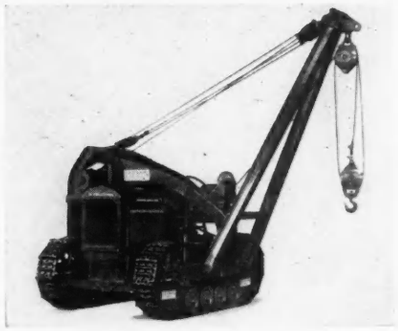
Emsco Type GC Crown Block

made to determine the requirements of the operators for deep well drilling. Ample strength, for drilling to present day depths, and the even greater depths anticipated in the future, is provided in this block. Sheaves are of manganese steel and are 48 inches diameter in upper deck and 36 inches diameter in lower deck. Rope grooves conform to A.P.I. specifications and are ground to size to reduce wear on the wire line. American super heavy-duty roller bearings in both the upper and lower deck assure long life and ample strength.

Trackson Company

▪ ***Pipe Layer***

Trackson Company, Milwaukee, Wisconsin, recently started production on a new Trackson pipe layer that is small enough to work on any right-of-way, yet has power and lifting capacity beyond that usually found in a machine of its weight. This pipe handling unit is dependable in operation and low in upkeep costs.



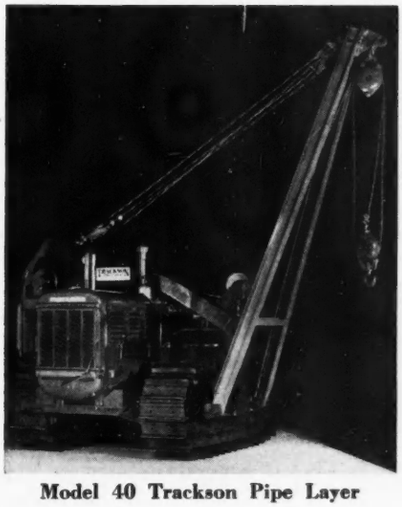
Model 30 Trackson Pipe Layer

To insure safe, easy control, both load line and boom raise and lower under power by means of worm driven winches. A special cross drive transmission, providing three speeds forward and reverse, allows them to be raised or lowered separately or together. The load line drum is equipped with a separate clutch and brake, permitting load to be lowered without power if desired.

The side boom is sturdily constructed of heavy H-beams with a cast steel header. It is securely mounted to the rigid tractor frame and pivots on hardened steel bushings. The legs of the boom are wide apart, enabling it to handle side loads.

The pipe layer is built in two sizes known as Model 30 and Model 40, powered by the Trackson McCormick-Deering Crawler-Tractor. The long, widespread tracks are rigid (non-oscillating) and extend ahead of the motor, giving the proper balance and stability. They are spread far enough apart to allow proper inbuilding of the pipe boom mechanism.

All control levers are located at the driver's fingertips and operation simplified to a minimum.



Model 40 Trackson Pipe Layer

George E. Failing Supply Company

▪ ***Portable Drilling Unit***

George E. Failing Supply Company, Enid, Oklahoma, exhibits the Model 36 portable drilling unit, equipped with portable pit and sample recovering equipment.

Outstanding features of this drill are: New rugged power take-off built especially for this drill and capable of continuously handling the entire power output of the truck motor; anti-friction bearings throughout; closed patented oil system of superior design; 4x5-inch pump equipped with chrome-nickel steel liners; "Sizmo" pistons and full floating steel connecting rods; alloy seamless steel tubing mast; planetary geared drum.

Failing Drilling Unit

This drill may be used as a conventional core drill for 1000-foot holes, or a kelly, which is carried in the folding mast, may be quickly installed for drilling soft formations. The booth also includes an exhibit of a new swamp buggy—developed by the Failing Supply Company.

S. M. Jones Company

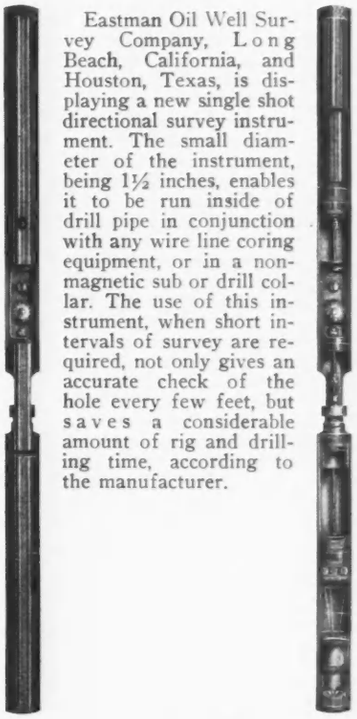
▪ ***Sucker Rods***

S. M. Jones Company, Toledo and Tulsa, exhibit brings out the story of Jones sucker rods and the engineering service the company offers the producer. A complete story of the value of these rods is shown in a five-panel display board in the center of which is a photo-mural of an Oklahoma City crew running a new string of Jones Type 7 rods.

Jones sucker rods are made to A.P.I. standards and in a variety of types to fit every pumping condition.

Eastman Oil Well Survey Company

▪ ***Directional Survey Instrument***



Eastman Oil Well Survey Company, Long Beach, California, and Houston, Texas, is displaying a new single shot directional survey instrument. The small diameter of the instrument, being 1½ inches, enables it to be run inside of drill pipe in conjunction with any wire line coring equipment, or in a non-magnetic sub or drill collar. The use of this instrument, when short intervals of survey are required, not only gives an accurate check of the hole every few feet, but saves a considerable amount of rig and drilling time, according to the manufacturer.

▪ ***Photographic Drift Indicator***

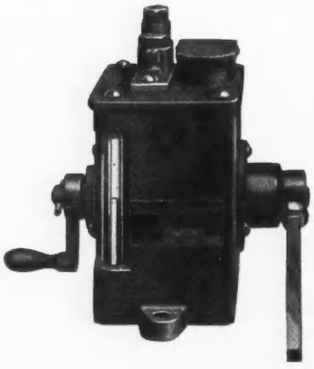
The innovation of the new Eastman Drift Indicator on display is the recording of the drift photographically. The instrument consists of a single small battery, a special Eastman stop watch, camera, light bulb, angle unit, and magazine of 60 photographic discs. The angle unit consists of a set of weighted cross hairs suspended in frictionless gimbals above a glass calibrated in etched concentric circles. In operation the watch is set for the time interval necessary for the instrument to arrive at the point of survey and come to rest. Upon reaching the time limit the watch makes an electrical contact between the battery and bulb, illuminating the etched glass and exposing a portion of the overlying cross-hairs to the photographic recording disc in the camera. If the recording were made while the instrument or drill pipe were in motion this fact would be instantly recognizable by the variable positions of the cross hairs on the photographic recording disc.

The instrument is made with a diameter of 1½-inch and is contained in a protective case of 1¾-inch diameter. It can be lowered into the hole either on a wire line or dropped through the pipe in a go-devil.

FIELD EQUIPMENT Featured at International Petroleum Exposition

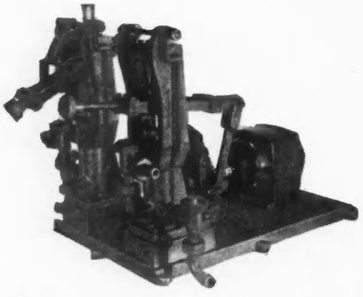
Hills-McCanna Company

▪ ***Pumps and Lubrication***



Hills-McCanna, 2 pint, single feed Model ET Lubricator

Hills-McCanna Company, Chicago, features seven of its products at the International Petroleum Exposition.

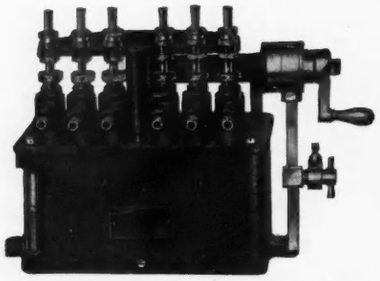


Hills-McCanna Chemical Proportioning Pumps, Dual Unit, Type M

Two of its products — Chemical Proportioning Pumps and Force-Feed Lubricators are shown in actual operation. The Proportioning Pumps are feeding treating agents to demonstrate delivery and positive pumping action. The various check valves which have been developed, such as the mechanically operated valve and lime and oil check valve which was designed for handling liquids with solids in suspension, are also on display. To meet the various needs of the petroleum industry, the line of Hills-McCanna chemical proportioning pumps now comprises four types and over 200 sizes with capacities ranging from 0 to 6000 gallons per hour, handling pressures up to 12,500 lbs. per square inch.

The lubricators which are in operation are the Oil Field type and also the Refinery type. Various accessories are shown also, such as the Metering Sight Feed Indicator which measures each induction of oil in 1/10 cubic centimeters instead of drops, thus affording utmost accuracy, inasmuch as drops vary in proportion to the viscosity of the oil used. These sight feed indicators are a boon to force-feed lubrication because they remove all guess-work and at the same time assure the operator that every part of the lubricator is functioning perfectly and that the required amount of oil is reaching its destination.

Young Tank Car Outlet Valves are also exhibited. This valve puts a stop to losses at loading racks and in transit. Leakage is prevented by a 3-point seal. Young valves close bottle-tight and open easily. They may be installed in any tank car equipped with an outlet leg.



Hills-McCanna, 6 pint, 6 feed Model MB Lubricator

Many types and sizes of Hills-McCanna Thermometers and Pyrometer Protection Tubes are shown, including those of No. 45 Alloy, which its high co-efficient of expansion permits quicker and more accurate readings. Hills-McCanna still plugs of No. 45 Alloy as well as plugs from other machineable materials are on display.

A recent addition to the Hills-McCanna Line—Centrifugal Pumps for handling corrosives is also exhibited. These pumps are designed having separate inboard and outboard heads to permit easy replacement when corrosion has caused its damage. The impellers and shafts can also be replaced without sacrificing the bracket and base. Of interest is the closely fitted impeller which assures delivery of rated capacity without capacity drop. From a maintenance standpoint these pumps effect large savings since their various parts are interchangeable, can be renewed easily and they run withsaid.

Eagle-Picher Sales Company

▪ ***Insulation***

The Eagle-Picher Sales Company, Cincinnati, is featuring its new plastic insulation, Eagle Super "66", for temperatures up to 1800° F. Super "66" is used for insulating fractionating columns, topping units, hot water tanks, boilers, pipes and other equipment, wherever an extremely efficient barrier to heat is needed. This new material is an improvement over an earlier Eagle-Picher product, Eagle "66," which enjoyed wide popularity.

Eagle Super "66" fully justifies the name "Super." It has all the advantageous features of "66"; it is extremely efficient; it is easy to apply, does not require skilled workmen; it can be removed, remixed, and used again and again when applied on surfaces as high as 1200° F. In addition Super "66" has three important advantages of its own: (1) It covers 20 percent more surface than "66"—50 percent to 100 percent more than any other insulating cements; (2) It can be applied immediately after mixing with water; (3) Its shrinkage upon drying is negligible.

Coffing Hoist Company

▪ ***Hoist***

Coffing Hoist Company, Danville, Illinois, displays a general utility tool for lifting or pulling vertically, horizontally, or at any angle. Its capacities are: ¾, 1½, 3, 4½ and 6 ton. It is the lightest ratchet hoist on the market, according to the manufacturer. The ¾-ton capacity weighs 14 pounds, and the 6-ton hoist weighs 65 pounds. The handle of the hoist will bend before the load will break chain or hook. This acts as a warning or safety valve. When there is no weight on the handle, free chain for quick load adjustments may be obtained.

Utility Hoist

American Hammered Piston Ring Company

▪ ***Piston Rings***

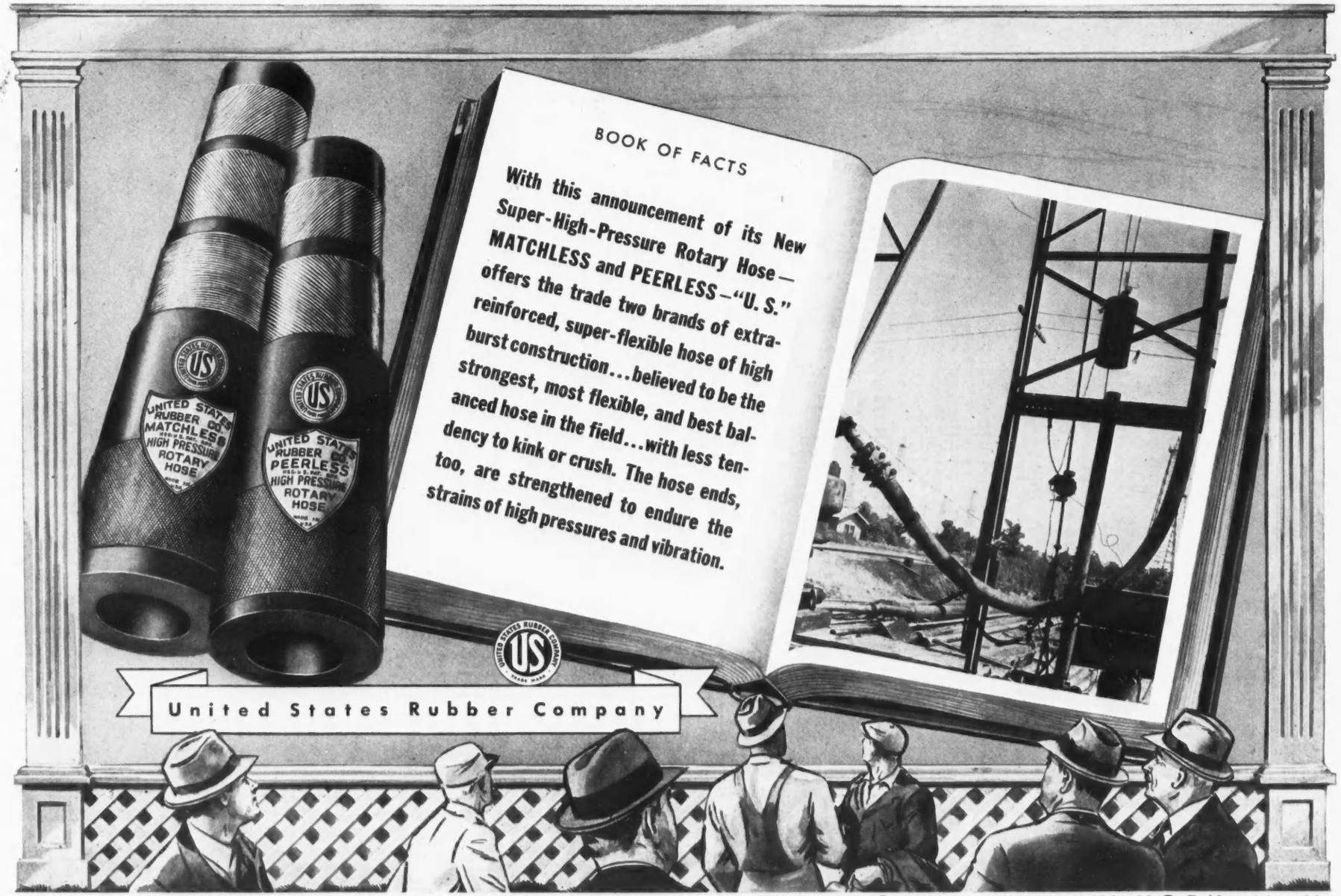
American Hammered Piston Ring Company, Baltimore, Maryland, features at its booth a set of cast iron and bronze piston rings for use in saturated and super-heated steam engines, Diesel engines, ammonia compressors and gasoline pumps.

The most interesting of the rings is the recently developed "Cast Iron Bronze" ring, originally designed for locomotives, but now used to reduce excessive wear on rings and liners in high speed Diesels and steam engines of the oil fields.

Benjamin Electric Company

▪ ***Lighting Equipment***

Benjamin Electric Company, Des Plaines, Illinois, is showing a colorful display of open and closed type floodlight equipment for use around a modern gasoline station, in addition to a line of reflectors and one of vapor and explosion proof lighting equipment for use around refineries, drilling rigs, and tank farms. There are also on display a line of dust proof, "Nofuse" panel boards and a complete line of industrial signal and calling devices.


BOOK OF FACTS
With this announcement of its New Super-High-Pressure Rotary Hose—MATCHLESS and PEERLESS—"U. S." offers the trade two brands of extra-reinforced, super-flexible hose of high burst construction...believed to be the strongest, most flexible, and best balanced hose in the field...with less tendency to kink or crush. The hose ends, too, are strengthened to endure the strains of high pressures and vibration.
US
UNITED STATES RUBBER CO. MATCHLESS HIGH PRESSURE ROTARY HOSE
US
UNITED STATES RUBBER CO. PEERLESS HIGH PRESSURE ROTARY HOSE
US
United States Rubber Company

UNITED STATES RUBBER PRODUCTS, INC., 1790 BROADWAY, NEW YORK, N. Y.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Portable Rig Company

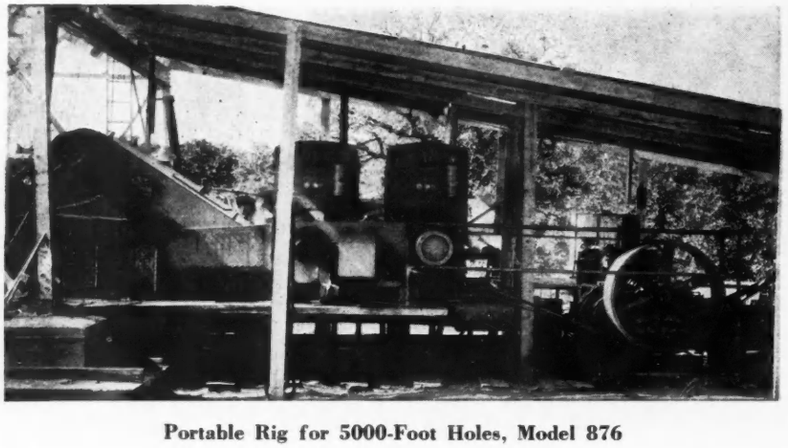
▪ ***Portable Rigs***

Portable Rig Company, Houston, has an outside exhibit, showing two portable rigs, the Model D-200 and Model 876, in operation, set up on opposite sides of a derrick floor.

Model D-200 for 7500-foot drilling, is of 3-speed construction, multiplying the speed of the drawworks by three. In this manner the maximum horsepower of the engines is transmitted to the drawworks through a ratio best suited to lifting the drill pipe. The rig is equipped with high-speed roller chains, and anti-friction bearings throughout, and is all cast steel construction. The complete unit is divided into sections of approximately equal loads for moving by truck, and mounted on a foundation suitable also for disconnecting in equal sections. Model D-200 is equipped at the exposition with two 225-horsepower 6-cylinder natural gas engines. It is equipped with countershaft in the substructure so that either one or two pumps may be used. There is a steel walkway around the entire rig so that workmen may walk around the complete job on a clean, safe walk. Model D-200 is furnished complete with foundation, hold-down clamps and braces, with guards over all chains, giving particular attention to safety for the crew.

Model 876, for 5000-foot drilling, has an enclosed type drawworks, is extremely rigid and compact, and readily portable. It is especially designed for gas, gasoline, Diesel or oil engines, with complete facilities for compounding to drawworks or pumps. An oil-proof case houses the drive between engines and drive to the drawworks. Chains are force feed lubricated by oil pump in the dual drive case. The unit is equipped with rotary sprocket, extended drum shaft and extended line shaft for automatic cathead. The brakes are watercooled and water is furnished under pressure by pump mounted on the side and driven by chain from the jackshaft. Air throttle controls and hydraulic clutch control are a part of this modern unit. The same portable facilities and convenient setting arrangement of the Model D-200 substructure is available in the Model 876 rig, as well as the arrangement of steel walkways.

Portable Rig Company is also displaying two type U-500 lighting plants, which consist of pipe skids welded as a unit to serve as an air receiver. On the pipe skid is mounted the motor with an extended jackshaft and clutches for driving a 5 K.W. generator for lighting. A small upright air-cooled compressor for blowing water wells and one centrifugal pump for general water service are all mounted as a unit. These lighting plants are serving to light the Portable Rig Company's exhibit at the exposition.

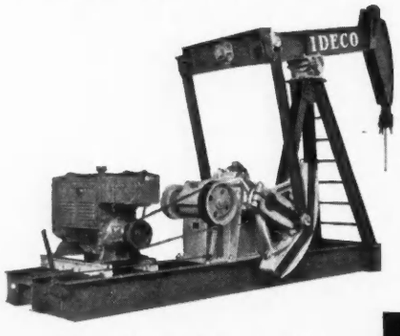


Portable Rig for 5000-Foot Holes, Model 876

International Derrick and Equipment Company

▪ ***Geared Pumping Unit***

International Derrick and Equipment Company, of Columbus, Ohio, is showing its geared pumping machines.



Ideco Geared Pumping Unit

Two examples of the lighter self-contained floor-type machines are displayed. These are mounted on steel skids and are completely equipped with a gear box, twin cranks rotary counterbalanced, brake and flywheel with brake operating mechanism, V-belt drive, prime mover mounting, twin pitmans with bronze, totally enclosed bearings, tripod samson post with totally enclosed oil bath pivoted center irons, pivoted equalizing cross beam, hinged type mule head and double cable beam hanger. One of these units will be operated under power during the course of the exposition.

Two heavier type gear boxes will be shown, one single reduction and one double reduction, with the gear cases open for general inspection.

▪ ***Drilling Equipment***

A 27-inch plain bob-tail rotary, a superduty straightline crown block and a heavy-duty stream-line traveling block will be displayed to represent the line of heavy rotary drilling equipment as manufactured by the Beaumont Division of the company.

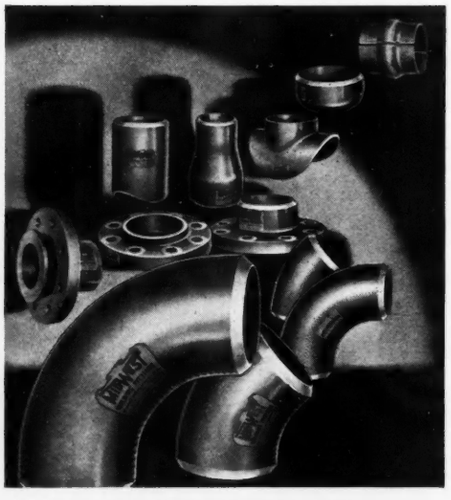
Midwest Piping and Supply Company, Inc.

▪ ***Welded Fittings***

Instead of confining its exhibit to the various types of Midwest welding fittings taken from stock, this exhibitor will demonstrate the applications of all fittings by means of full size samples.

In addition to welding ells the Midwest line of welding fittings includes saddles, sleeves, reducers, shaped nipples, Van Stone nipples, heads, return bends, tees and flanges.

The distinctive feature of Midwest welding ells is the long tangents which always equal one-quarter of the nominal pipe diameter (a 12-inch fitting has tangents 3 inches long). Other characteristics are unusual dimensional accuracy and uniformity resulting from a special manufacturing process that finishes the fitting by a forging operation in compression.



Midwest Welding Fittings

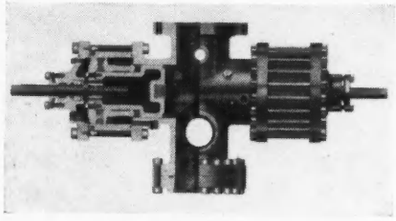
Frick-Reid Supply Corporation has recently been appointed distributor for Midwest welding fittings.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Cameron Iron Works, Inc.

▪ *Pressure Operated Blowout Preventer*

Cameron Iron Works, Inc., Houston, is exhibiting its Type "SDA" (short double acting) pressure operated blowout preventer, equipped with self-centering rams fitted with self-feeding ram packing elements. This unit is made to fit all standard sizes of casing from 6⅝-inch to 16-inch. Features of this preventer, according to the manufacturers, are: Instant opening or closing by fluid pressure supplied by boiler feed pump or slush pump; remote control from any convenient point; rams which center the pipe in the hole

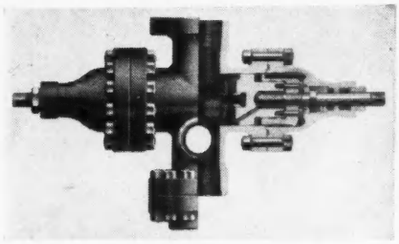


Pressure Operated Blowout Preventer

automatically when preventer is closed, regardless of how much the pipe may be hanging off center; self-feeding ram packing elements which not only effect a leak-proof seal under all well pressures, but also permit rotation and spudding of drill pipe through closed rams while circulating to kill a kicking pressure; ram design permits long strings of drill pipe or tubing to be suspended on the closed rams; ram design also prevents pipe from being blown from the hole when rams are closed; pipe rams and blind rams are interchangeable, so that any Type "SDA" Blowout Preventer may be quickly converted into a gate valve; heavy ram locking screws hold rams closed against well pressure; rams are easily changed, using hydraulic power to dismantle and assemble the preventer; flow-line outlets are made integral with body; flanges are made integral with body; rams to close around various sizes of pipe are interchangeable.

▪ *Manually Operated Blowout Preventer*

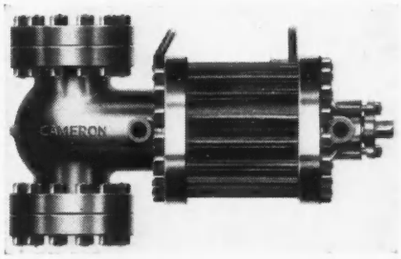
Cameron Iron Works, Inc., is also showing its latest model manually operated blowout preventer, also equipped with self-centering rams fitted with self-feeding ram packing elements. This unit is made in sizes to fit all standard casing sizes from 6⅝-inch to 13⅜-inch. Construction is very similar to the Cameron pressure operated blowout preventer, except that rams are closed manually by means of heavy ram operating screws. These are turned from a position outside the derrick floor by extension closing wrenches, fitted with large hand wheels. Features of the new manually operated preventers are: round rams, the design of which leaves no shelves for accumulation of cuttings which might prevent full closure of rams; self-centering rams which automatically center pipe in the hole as rams are closed; rams equipped with self-feeding ram packing elements which only assure a shut-off against any well pressure and permit long periods of rotation and spudding of drill pipe to prevent sticking while circulating to regain control of a kicking well; rams are designed so well pressure is equalized front and rear, thus facilitating closing against heaviest well pressures; rams are provided with shoulder on both top and bottom, which permits suspension of heavy strings of pipe on the closed rams, and prevents pipe from being blown from the hole when rams are closed; blind rams and pipe rams are interchangeable, so that unit may be converted quickly into a gate valve for closure with pipe out of the hole; flow-line outlets are made integral with the preventer body; ram operating screw closing thrust is absorbed by large Timkin tapered roller bearings; available in screwed end, flanged end, and combination end models.



Manually Operated Blowout Preventer

▪ *Pressure Operated Gate Valve*

The company is exhibiting two models of pressure operated gate valves for use in drilling control hook-ups and in high pressure manifolds where high-speed closing, positive seal, and high resistance to sand cutting are imperative. This valve

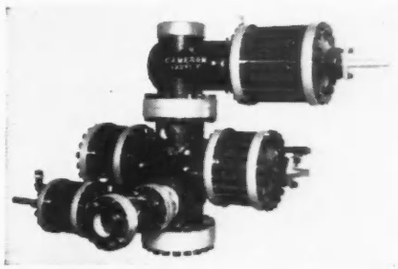


Pressure Operated Gate Valve

opens and closes instantly by fluid pressure supplied by the boiler feed pumps or slush pumps it is claimed. Ram-gate is of round construction, and is fitted with a self-feeding packing element which seals against the seat, even though the latter may be roughened by corrosion, rust, or other service conditions. This valve has only one seat, the sealing face of which is parallel to the direction of flow through the valve. Seat is machined, but not ground, as this is not necessary in effecting a pressure-tight seal. Control is from any convenient point, control valve usually being located near the driller. Two choke ports function to eliminate cutting of vital sealing surfaces at moment of final closure. Ports also provide a means of forcing accumulated cuttings from the gate cavity when gate valve is closed. The valve may be closed manually by means of a heavy ram-gate locking screw if pressure is not available. Valves are available in all sizes from 6⅝ to 13⅜-inches, in screw end, flanged end, or combination end types.

▪ *Drilling Control Hook-Ups*

Cameron Iron Works is exhibiting one of the six different types of drilling control hook-ups it manufactures. This hook-up consists of one 13⅜-inch Type "SDA" pressure operated blowout preventer; one pressure operated Type DV drilling-through valve, size 13⅜-inch; and one 7-inch flow-line gate valve, pressure operated type. This hook-up not only permits instant closure of a well with pipe in

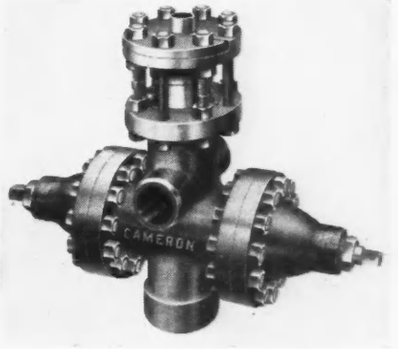


High Pressure Well Control Hook-Up

the hole, but also provides for instant closure of the well bore with pipe out of the hole. Further, it permits drill pipe to be rotated and spudded safely to prevent sticking while circulating to kill kicking pressures and, if necessary or desired, it permits drill pipe to be suspended on the rams of the preventer and circulation to be maintained between the closed valve and the closed rams of the preventer. Other types of hook-ups, offering more extended range of control, are shown on charts at the booth.

▪ *Master Control Tubing Head*

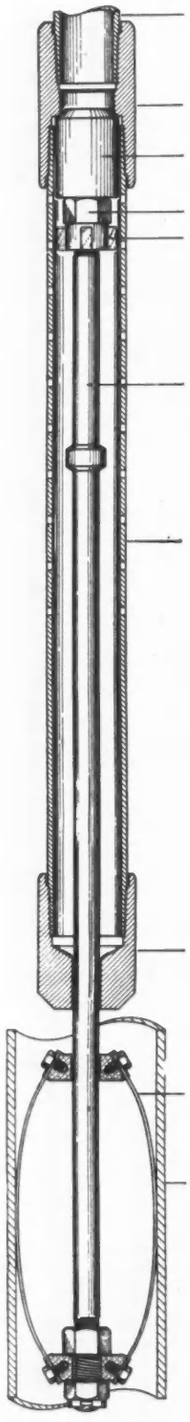
Cameron is exhibiting a Master control tubing head, which, due to patented features, affords an unusually high range of control during all operations of completing a well, and also enables an operator to adjust tubing height after completion, or to remove tubing from the well altogether, for any operating purpose. The unit serves as a ram-type blow-out preventer while tubing is being run in a well; seals and suspends the tubing



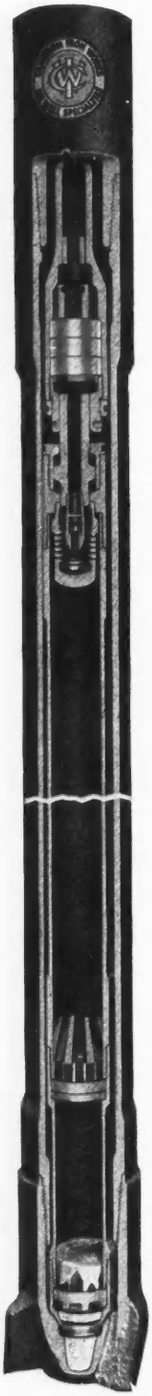
Master Control Tubing Head

FIELD EQUIPMENT Featured at International Petroleum Exposition

after it has been bottomed; and is designed so that, by closing the rams after a well has been completed and placed on production, the annular space between casing and tubing may be closed and sealed pressure tight. This feature permits full control of all casing connections leading from the head. Use of the Cameron tubing plug, in conjunction with the Master control tubing head, also enables an operator to seal his tubing string at the bottom—thus providing complete and full control of both tubing and casing connections without necessity of killing the well, the manufactures declare.



Rod Type Resetting Tubing Plug



Cameron Rotary Core Barrel

▪ *Rotary Core Barrel*

Cameron is displaying a rotary core barrel of the type equipped with the idling inner barrel. This barrel incorporates a number of unusual and interesting features of exclusive design. Inner barrel is suspended on a heavy roller bearing assembly insulated against mud contamination. This bearing assembly permits the inner barrel to idle while the outer barrel rotates. A limited amount of slush is permitted to enter the inner barrel, thus providing slush lubrication for the core as it enters the barrel, and furnishing a bond for soft, unconsolidated formations. Two core catchers are provided. Design and construction of the core cutter head is also a departure from customary practice, and has assisted in obtaining an unusually high percentage of core recovery, it is claimed. Adapter parts permit the barrel to be used in cutting hard formations as well as the softest formations encountered in the Gulf Coast.

▪ *Overriding Spring Type Resetting Tubing Plugs*

Two models of Cameron resetting tubing plug, a device which permits safe and positive closing of the tubing string at the bottom of a well, are shown. In effect, the device serves the same purpose as a tubing master gate on the Christmas tree, except that it closes the tubing string on bottom so that tubing may be manipulated to obtain desired gas-oil ratio, or may safely be removed from the well entirely. The overriding spring type resetting tubing plug is designed primarily for use in wells where tubing is to be run all the way to bottom. A "J" slot is incorporated so that spring mechanism may be made inoperative. This feature is useful when setting tubing that can not be moved after it is landed; for example, tubing suspended by threads from a solid hanger. Springs may be latched down at any time after tubing is started in the hole.

▪ *Rod Type Resetting Tubing Plug*

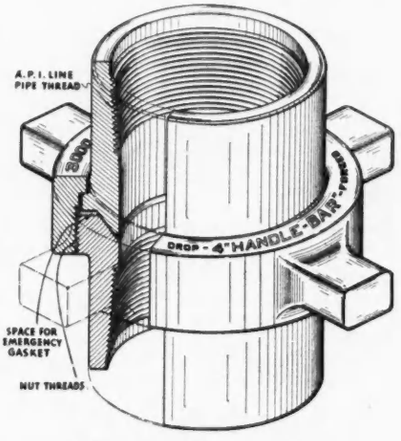
The Cameron rod type tubing plug is primarily designed for use in wells when it is not necessary to run tubing to bottom, or when tubing is to be landed and suspended on slips placed above the seal in the tubing head. This type of tubing plug also provides a safe and positive means of sealing the tubing string on the bottom joint, so that entire string may safely be manipulated to obtain a desirable gas-oil ratio, or may be entirely removed from a well to permit running of packer, etc. Cameron tubing plugs are operated by raising the tubing string two or three feet, and then lowering the string two or three feet in the well. This movement of the tubing string automatically closes and seals the tubing plug in the bottom joint of tubing, it is said.

Continental Supply Co.

The Continental Supply Company, St. Louis, is devoting its display at the exposition to feature "handle bar" unions and the D&B Simplex safety hook with cable eye. The company also provides space in its building for exhibits of various manufacturers who distribute and sell through Continental Supply Company, and whose products are described elsewhere in this issue.

▪ *Handle Bar Union*

The Petro handle bar unions are for quick standpipe connections, rotary hose connections, steam lines, and for all service where lines must be broken or where wrench space is limited. Of high quality forged steel, with nuts drop-forged in one solid piece, these unions are shown in sizes up to four inches inclusive. Quick connections that are tight up to 2000 pounds cold working pressure are claimed for the units.



Petro Handle Bar Union

▪ *Safety Hook*

Also on display is the D&B safety hook, equipped with SKF roller bearings, and lubricated through an Alemite connection. Of heavy construction, its fabrication is simple and heavy. In use, it is connected directly to the clevis of the tubing blocks and can also be attached to the tubing blocks with a small "S" hook or with drilling cable without bending the eye out of shape.

D & B Safety Hook

Locking of the safety hook with the cable eye is by the weight of the rod or tubing string, and once it is closed, it cannot be opened except through exerted pressure of the latch trip in the hand grip.

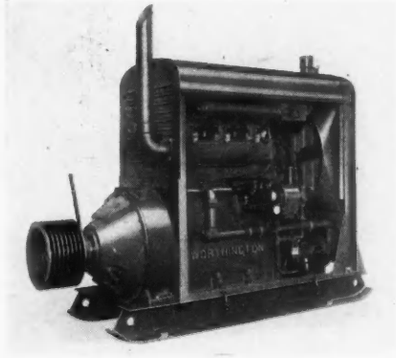
FIELD EQUIPMENT Featured at International Petroleum Exposition

Worthington Pump and Machinery Corp.

Worthington Pump and Machinery Corporation of Harrison, New Jersey, is presenting a portable gas engine and angle compressor unit newly presented equipment.

▪ *Portable Gas Engine*

The company is exhibiting a 3-cylinder totally enclosed engine developing for continuous service 60-horsepower at 800 revolutions per minute. It has a substantial full-length base with removable lower bearing shells supporting a carbon steel crankshaft, and with bearings on both sides of each crank. Removable nickle-iron liners are so inserted to permit free expansion and contraction of the liner without water leakage. Large doors are fitted in front and rear to give unobstructed access to running gear including camshaft, push rods and rocker arms. The separate, nickle-iron, cylinder heads are water cooled by a large radiator and are assured of uniform cooling by metal to metal joints, between head and liner. Complete force-feed lubrication pumps oil from



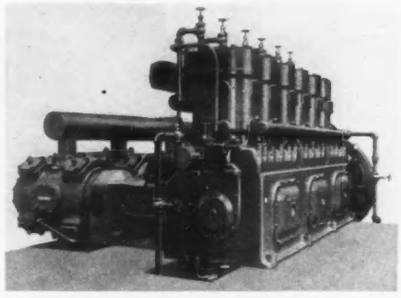
Worthington Portable Gas Engine

the sump to a jointless pipe leading to the main bearings. Additional connections carry oil to all camshaft bearings, valve tappets and rocker arms. The fuel gas system is operated by a throttling type mixing valve with independently adjustable valves controlling air and fuel gas, both valves operating as a unit under governor control.

An outstanding feature of this unit is the built-in clutch which provides for application to a wide variety of power requirements. The entire unit is enclosed to withstand extreme weather conditions and is mounted on a sturdy welded steel frame equipped with skids for loading and unloading. This unit is built in 2 to 6 cylinder combinations.

▪ *Angle Gas Engine Compressor*

Also in the display is shown an angle gas engine compressor, built to meet the demand for a medium size,



Angle Gas Engine Compressor

self-powered, simple and compact air and gas compressing unit that is both adequate and economical for a variety of industrial uses. Small floor space is required of the unit, and it is portable. Combining a type of the company's "efficiency" compressors and a vertical gas engine, the whole is built into one compact and rugged unit. The number of cylinders may be from one to four, depending upon its size, and may be either single or multi-stage. Compressor output may be arranged to deliver a variety of load requirements, dependent upon the engine power.

Lubrication is by full pressure feed and the engine cylinder is totally enclosed. Individual cylinder walls are lubricated by independent force-feed lubricators. This unit is built in four sizes—60, 125, 190, and 260 horsepower.

The New Deal Specialty Company

▪ *Pipe Cleaning Machines*

The New Deal Specialty Company, Okmulgee, Oklahoma, is displaying a line of pipe cleaning, bending, and straightening machines, tripod hoists and dent removers.

▪ *"Hi-Speed" Model*

The "Hi-Speed" model being shown by New Deal was designed for jobs involving many miles of pipe. Mechanical features of the model include dual loader wheels, a device to lift collars or weld onto cleaning blades, a cut-off attachment, double dual high speed guide rollers, dual gear driven brush, wide auxiliary stand wheels, carburized steel unloader wheels, safety bars, self-locking automatic guide handle. The machine will take care of pipe ranging in diameter from 3 to 14 inches. It is 25 feet long and 32 inches wide and weighs 3400 pounds.

▪ *De Lux Models*

De Lux models being displayed are made in three sizes, designed and built especially to meet the needs of gas, utility and pipe line companies. They are specially constructed to handle pipe that is not quite straight.

▪ *Regular Models*

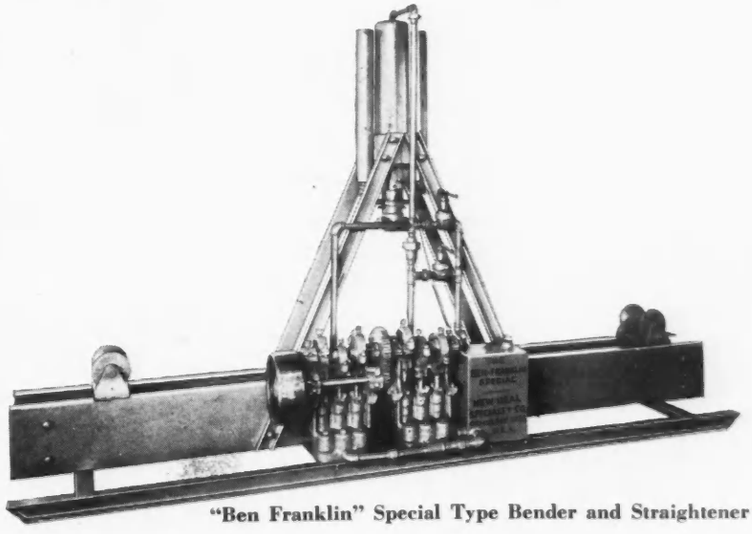
Also shown at the New Deal booth is one of the "Regular" models, a pipe cleaning machine which is compact and sturdily built. It incorporates many features of the larger machines and features portability. Its capacity is for 2-inch to 10¾-inch pipe. Length of the machine is 25 feet; weight, 1865 pounds.

▪ *Straightener and Bender*

New Deal's display of pipe straighteners is featured by the "Ben Franklin" model D machine, which has a hydraulic cylinder, return springs, adjustable carrying rollers designed not to kink the pipe, high pressure quick acting valves, steel frame and sled, patented pump, fluid tank, two high pressure pumps. The ram stroke is 24 inches, and normal capacity of the machine is up to 8⅝ inches. The model is available in different sizes.

▪ *"Big Shorty" Model E*

"Big Shorty" Model "E" exhibited is a hand operated duo-hydraulic unit, specially designed and built for straightening kellys, rotary stems, structural steel. Designed for quick, economical portability for scattered operations. Will set on der-



"Ben Franklin" Special Type Bender and Straightener

BUILT FOR

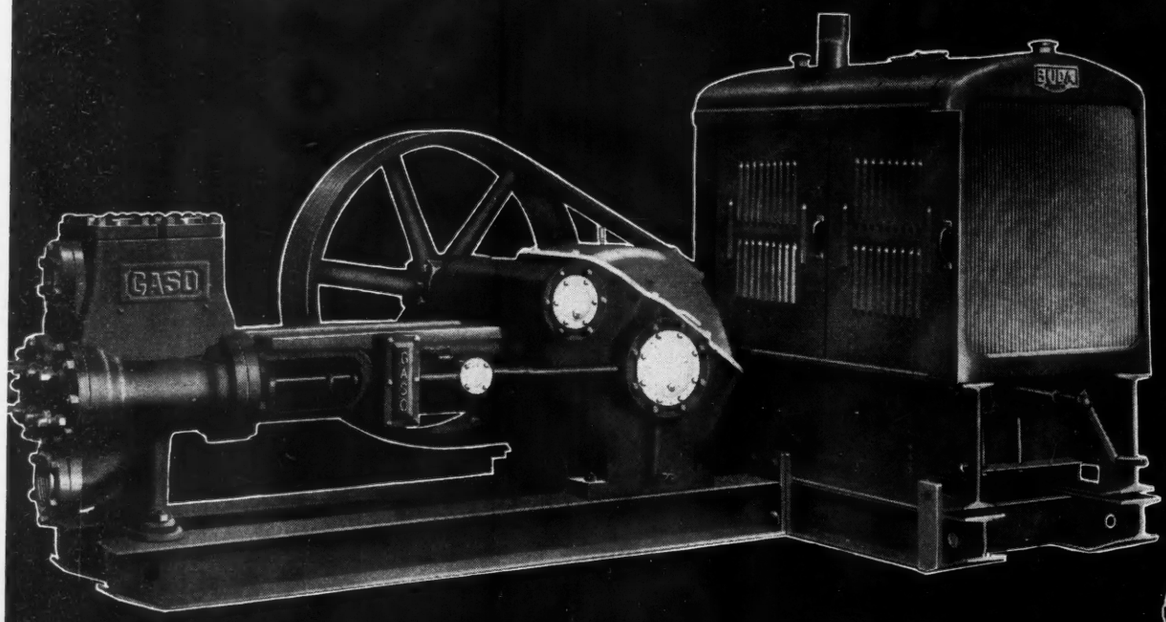


FIG. 1740
Gaso Duplex Piston
Pump, Gasoline Engine
Drive—54 to 250 Bbls.

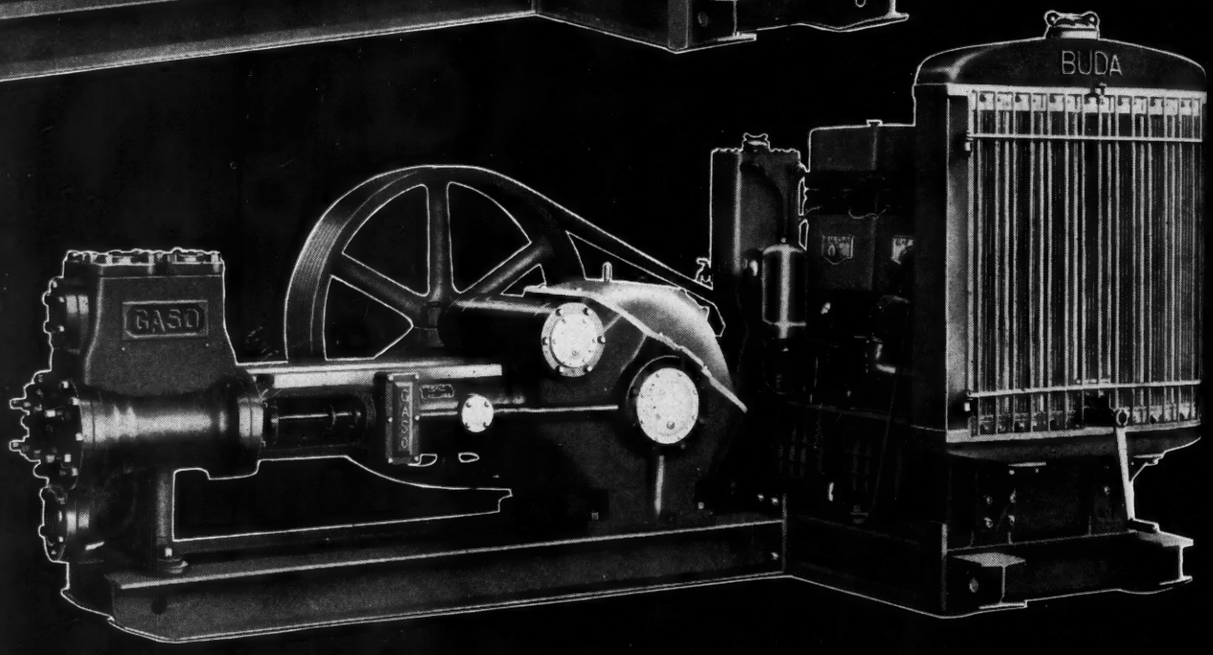


FIG. 1741
Gaso Duplex Piston
Pump, Diesel Engine
Drive—250 to 502 Bbls.

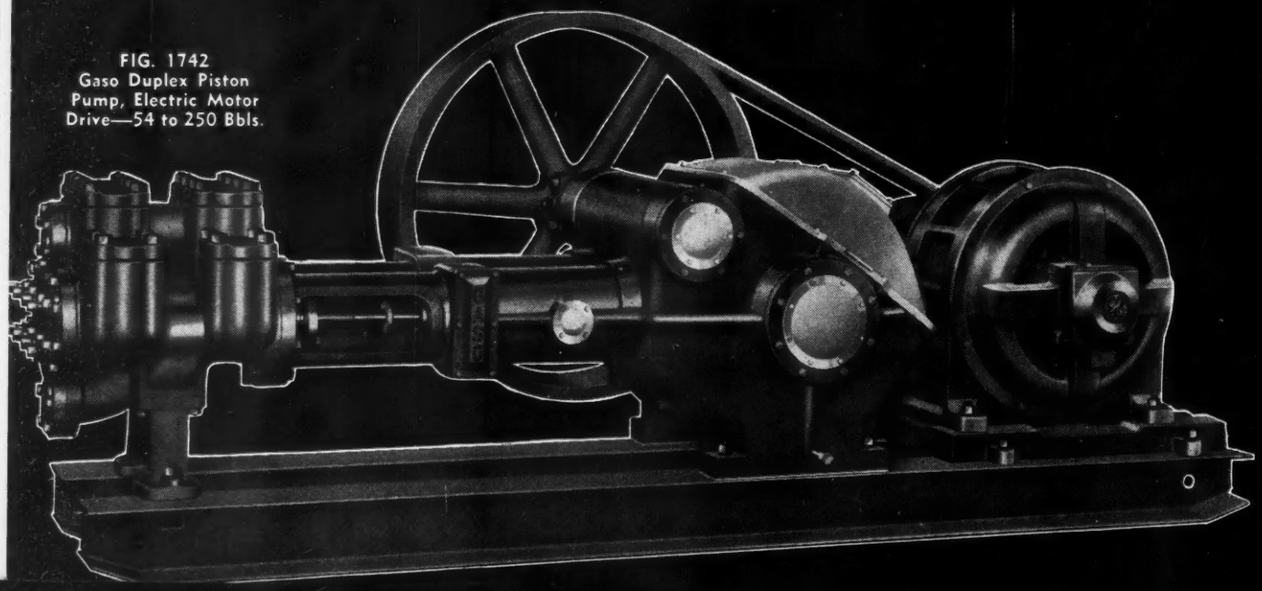
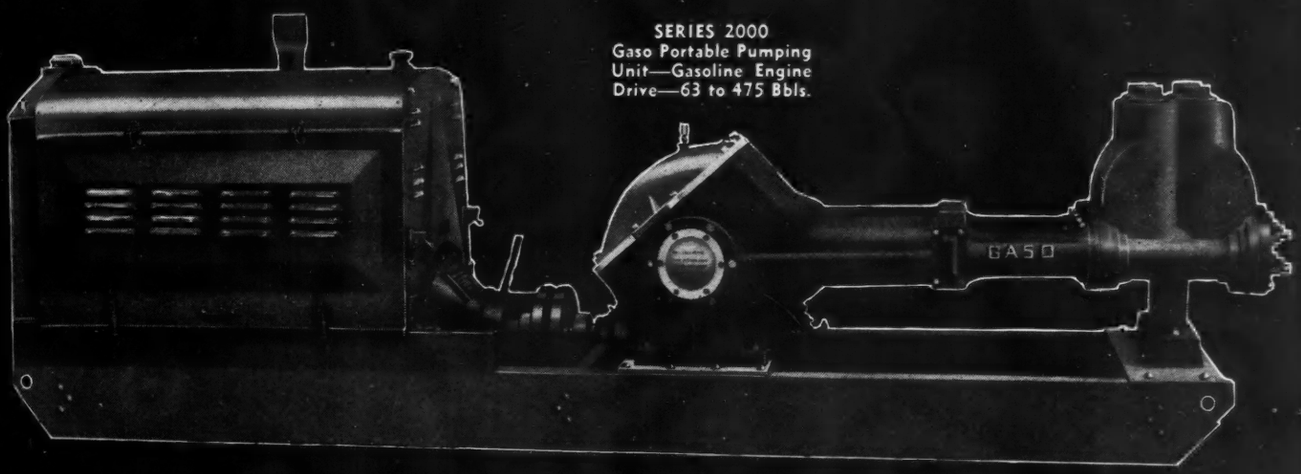


FIG. 1742
Gaso Duplex Piston
Pump, Electric Motor
Drive—54 to 250 Bbls.

RPIPE LINES



SERIES 2000
Gaso Portable Pumping Unit—Gasoline Engine Drive—63 to 475 Bbls.

FIG. 601
Gaso Walking Beam Pump—30 to 55 Bbls.

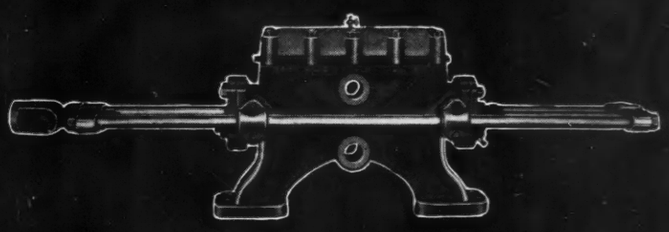
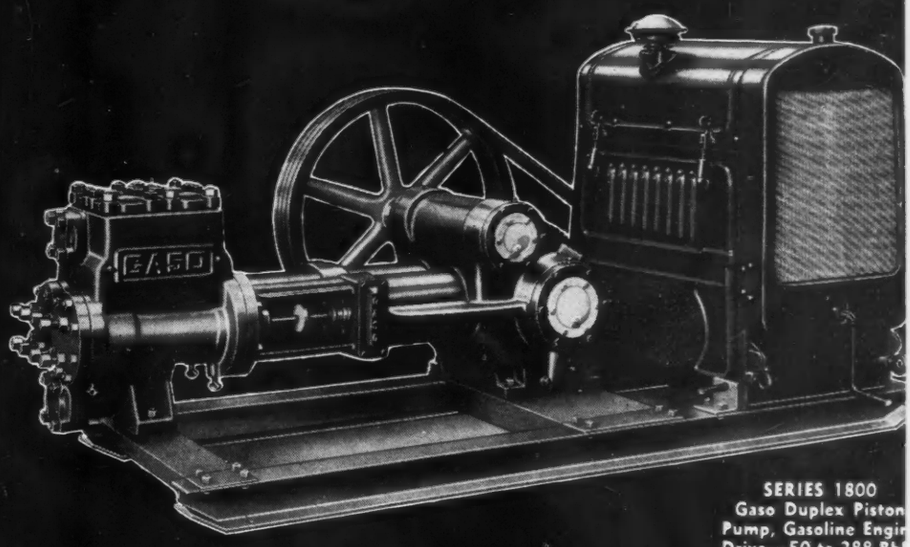


FIG. 301
Gaso Piston Power Pump—32 to 158 Bbls.



SERIES 1800
Gaso Duplex Piston Pump, Gasoline Engine Drive—50 to 288 Bbls.

In an age of specialization, GASO has been the one company specializing strictly in the building of pipe line pumps.

For 20 years our engineers have engaged in the constant study of this one field, developing a line of pumps to exactly answer its various requirements.

The producing and pipe line companies have recognized GASO Pumps as especially suited to their needs. In the oil industry throughout the world GASO Pumps have become the main reliance of pipe line operators.

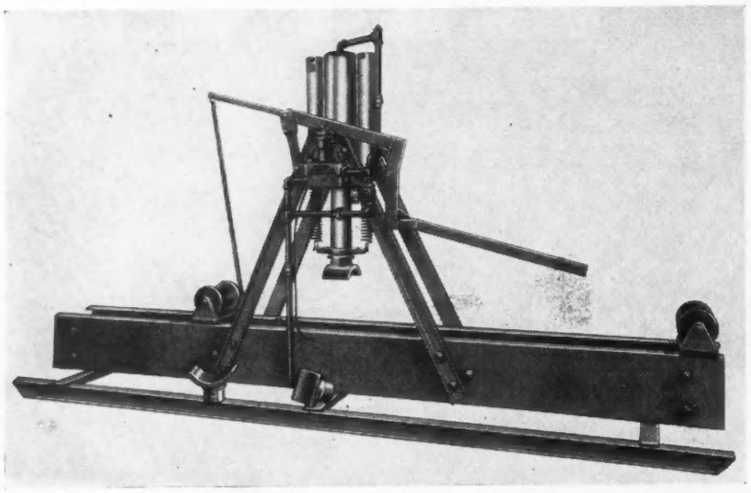
AT THE EXPOSITION

we will exhibit a new GASO Pumping Unit designed for general service but suitable for core drill and seismograph duty. Be sure to see it.
Booths 57-58, Texas Bldg.

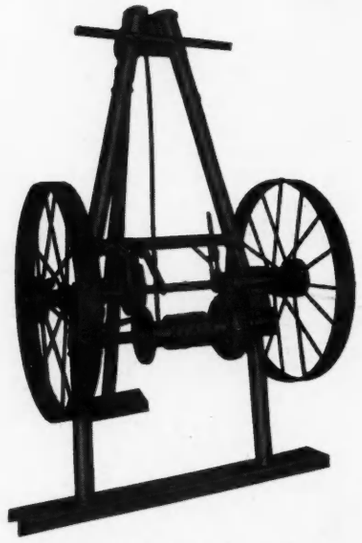
GASO PUMP & BURNER MFG. CO.
Tulsa, Okla.
Export Office: 149 Broadway, New York

GASO PUMPS

FIELD EQUIPMENT Featured at International Petroleum Exposition



Model "A" Hand-Operated Bender



New Deal Tripod Pipe Hoist

rick floor. Exerts 45,000 pounds pressure.

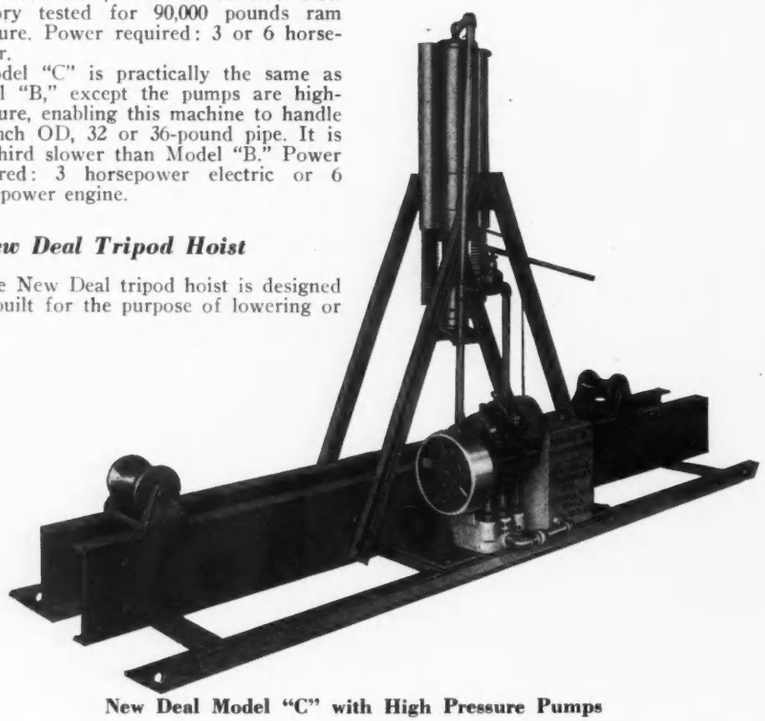
Model "A" duo-hydraulic pipe straighteners and bending machines shown are manual or hand operated, on steel base 12 feet long and mounted on steel sled, carrying wheels and shoes designed to fit the pipe. Ram stroke, 18 inches; maximum capacity 8⅝ inches OD. A machine for straightening or bending light-weight pipe or casing where speed is not an especial object. Exerts a ram pressure of 45,000 pounds, it is claimed.

Model "B" has a maximum capacity for 8⅝-inch OD-29 pound pipe, but handles 7-inch OD 24-pound. It is power driven. Equipped with Hi-Speed triplex pumps. Ram stroke, 24 inches. Is about 5 times as fast as the model "A," is of heavier construction, and handles heavier weights per foot. Steel base, mounted on steel sled. Factory tested for 90,000 pounds ram pressure. Power required: 3 or 6 horsepower.

Model "C" is practically the same as model "B," except the pumps are high-pressure, enabling this machine to handle 8⅝-inch OD, 32 or 36-pound pipe. It is one-third slower than Model "B." Power required: 3 horsepower electric or 6 horsepower engine.

▪ *New Deal Tripod Hoist*

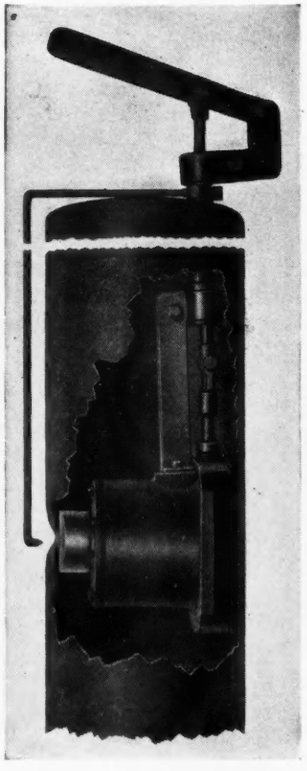
The New Deal tripod hoist is designed and built for the purpose of lowering or hoisting pipe lines and making over-bends. Electric steel castings in the mast enclose a sheave at the top which prevents the cable jumping off, allowing the operator to pull hook to the extreme height. The hook is cast steel with babbitt socket, making a neat, strong job with no dangerous wire ends exposed. The bearings are cast in one piece to fit around pipe. The gears are steel with milled teeth and steel clutch parts. The brake is equipped with steel ratchet dog which holds load safely. The wheels are equipped with ratchets for turning corners in transit and they are used as a jack in hoisting pipe. The wheels are 40 inches in diameter, with 4-inch rims and heavy steel spokes. The derrick will handle pipe up to 24-inch, it is claimed.



New Deal Model "C" with High Pressure Pumps

▪ *"De-Denter"*

New Deal Specialty Company also is displaying a dent removing machine designed to be used on pipe and casing. It is said the machine can be operated, and transported, by one man. It is hand operated. The "De-Denter" is available in sizes to take care of 7, 8, 10, and 12-inch O.D. casing.



Dent Removing Machine

FIELD EQUIPMENT Featured at International Petroleum Exposition

Kibele Manufacturing Company

▪ *Tubing Catcher*

Kibele Manufacturing Company, Dallas, is showing a line of tubing catchers in Oil Well Supply Company and Lucey Products Corporation booths. These catchers have been designed to increase slip area in the proper direction, namely, lengthwise. By this multiple-step design Kibele can provide sufficient area for any depth well without obstructing the free passage of gas or fluid while lowering the catcher in the hole. As a result of this added contacting surface the strain exerted by the slips on the casing wall when tubing falls is spread over a sufficient area to eliminate ruptured or distorted casing.

Kibele provides catchers with 2-step slips for wells less than 4000 feet deep and provides catchers with 3-step slips (illustration) for wells below 4000 feet in depth.

▪ *Swabs*

Kibele Manufacturing Company is also showing casing and tubing swabs in these same booths. Casing swabs can be converted from one size to another by changing the cup assembly. Each is furnished with a combination foot and relief valve designed to release excess pressure when the swab gets under too big a load.

Casing and tubing swabs both have extra large fluid passages to permit sinking rapidly. Kibele manufactures swabs from one-inch size up.

▪ *Pump Pistons*

Kibele pistons for boiler feed pumps are on display in the Lucey booth. These pistons feature a replaceable packing ring, these rings being specially made to resist wear, heat and boiler compound. Kibele pistons are of three piece construction—a head, follower plate and packing ring.

Rector Well Equipment Company, Inc.

▪ *Safety Rectorheads*

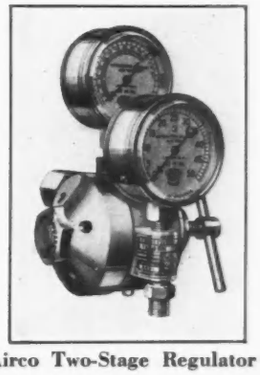
Rector Well Equipment Company, Inc., Fort Worth, is displaying the complete line of Rectorheads: the high-pressure head, 6000 pounds test; Type "M", 3000 pounds test; and Type "L", 1500 pounds test. All these heads embody the splitring suspension, permitting the operator to work his pipe while cementing, to repack completelv under high pressure, and to get shutoff without putting men in the cellar. The design supports the casing as well as providing against any upward thrust. The heads have full opening bottom flange, avoiding any reduction in area. Rectorheads are furnished either with standard or adapter gland, the latter built especially for use on top section of the assembly to enable the operator to stab over the gland in event of an emergency, such as a blowout. If blowout occurs due to break in upper connections, the Christmas-tree can be backed out and a valve or overshot stabbed over the smaller flow. Blowout preventer may be built up directly on bottom flange, and drilling operations carried on with the head in place.

The high pressure Rectorhead is hammer forged steel, while the Type "M" and Type "L" are alloy cast steel. The split-ring feature is a characteristic feature of the Rectorheads, as is the recessed coupling (double collar) in the high pressure and Type "M" heads.

Air Reduction Sales Company

Air Reduction Sales Company, New York, is showing a line of welding equipment, including a two-stage reduction oxygen and acetylene regulator, a portable pipe cutting and beveling machine, and a radiagraph.

▪ *Regulators*



Airco Two-Stage Regulator

Featured among the items displayed are the oxygen and acetylene two-stage reduction regulators. These operate on the lever type principle, compensate for drop in cylinder pressure, and have the stages designed in such

Kibele 2½-Inch Tubing Catcher.

Kibele 7-Inch One-Cup Casing Swab.

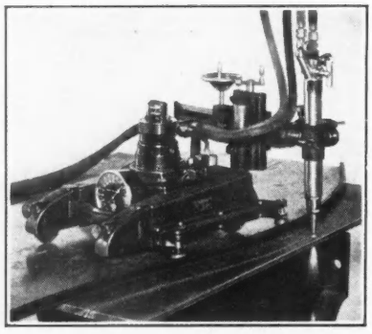
High Pressure Rectorhead unassembled, with Adpater Gland

High Pressure Rectorhead assembled with Standard Gland.

a manner as to eliminate cold weather fluctuations. The manufacturer, moreover, claims the regulator provides accurate regulation down to the point where cylinder pressure is practically equal to the delivery pressure for which the regulator is set. An automatic safety release valve is designed to eliminate a bursting disc and the necessity of replacing same, and a signal indicates a leak at the first stage seat. A glass wool strainer located in the intake prevents dust and dirt from entering the regulators.

▪ *Radiagraph*

Another important part of Air Reduction Sales Company's exhibit is devoted to a radiagraph with a standard steel track for straight line cutting to any length, a radius rod and center point for cutting arcs and complete circles, a ball bearing side attachment for straight or curved line cutting to templet. In addition, the radiagraph, by special manipulation and accessories,



Airco Radiagraph

can be made to do several other types of cutting. The radiagraph on display is a portable, motor driven oxy-acetylene cutting machine. In depth its cutting range is broad. The machine operates in either direction, forward or reverse. A variable speed motor drives the carriage, and the cutting speed can be regulated easily. A small toggle switch starts and stops the motor. A transmission clutch is provided which allows the carriage to roll forward or backard. The torch adjusting arm provides adjustments for bevel cutting, regulating distance of torch tip from the work, for moving the torch back and forth laterally, and for inclination of the torch in the direction of the cut when desirable. The radiagraph weighs about 65 pounds and can be operated on 110 volts A.C. or 220 volts D.C.

Airco Pipe Cutting and Beveling Machine

▪ *Pipe Cutting Machine*

Another part of the exhibit is devoted to Air Reduction Sales Company's pipe cutting and beveling machine, which is said to weigh only 50 pounds. The manufacturer claims the machine can be operated by one man, and that it does a clean job, leaving pipe ends square with pipe axis, free from burrs, and ready for welding.

Oil Well Improvements Company

▪ *Valves*

Oil Well Improvements Company, Tulsa, is showing a line of Orbit valves for drilling and pipe line service. The Orbit has never been shown before and employs new principles. A cutaway display section shows clearly how the valve is constructed and operated.

Built to close tightly and operate easily under high pressures, the Orbit valve consists of a ball core in the conventional type of valve body. In closing, the valve core is turned until the round passageway through the core is crosswise in the valve and then the core is rolled like a ball into the valve seat.

In opening, the valve core face rolls away from the valve seat, then turns until the through passageway lines up with the body openings. The valve core has two movements in different orbits, controlled by the single movement of the handwheel.

Prominent features are: compact design and elimination of excessive weight; drilling valve can be made up in cellar without being taken apart; the round opening through the core provides a nonturbulent flow passage; the valve core covers the valve seat when in open position; there being no volumetric displacement, the operation of the valve is not disturbed by deposit of sediment; valve seats are replaceable; indicator shows position of valve at all times; few turns of handwheel from open to closed position.

The line of Orbit includes drilling valves with non-rising stem, pipe line valves with rising stem, and stop valves, all either flanged or screwed.

This company is also showing lubricating equipment for running tools under pressure.

Orbit Valve

Barber-Greene Company

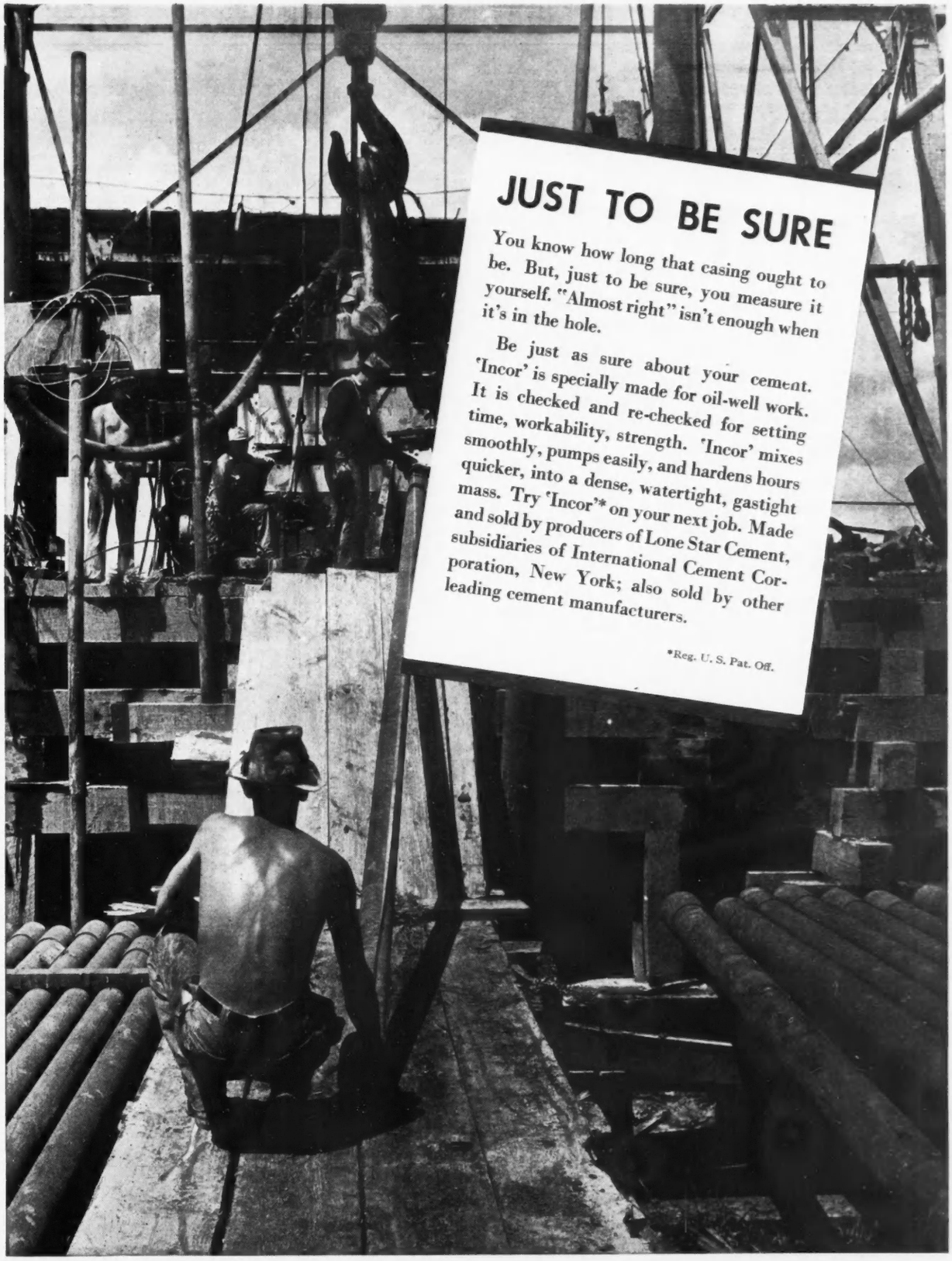
▪ *Pipe Line Ditcher*

Barber-Greene Company is showing its B-G pipe line special ditcher, which is designed especially for high daily trench mileage. It has the B-G milling action digging, and in addition special gearing and an extra high power engine that makes possible digging speeds up to 11 feet per minute. Useless weight has been eliminated, until there is one full horsepower for every 350 pounds of ditcher, which totals about 20,000 pounds.

This pipe line ditcher has full crawler mounting with B-G three-point suspension, which gives the crawlers flexibility but maintains the rest of ditcher at an even keel. The ditcher has sufficient clearance to straddle a pipe up to 14 inches in diameter.

B-G Pipe Line Ditcher

The ditcher is equipped with the B-G automatic overload release, which releases underoverloads, and resets itself when the overload is free. The bucket barrels on the machine are coated with Stoodite metal for long wear. The digging teeth are of chrome alloy steel. The model also has self-cleaning buckets, wide range of digging speeds, several digging widths, adjustable spoil conveyor, power boom hoist and a telescoping follow-up scraper.


JUST TO BE SURE
You know how long that casing ought to be. But, just to be sure, you measure it yourself. "Almost right" isn't enough when it's in the hole.
Be just as sure about your cement. 'Incor' is specially made for oil-well work. It is checked and re-checked for setting time, workability, strength. 'Incor' mixes smoothly, pumps easily, and hardens hours quicker, into a dense, watertight, gastight mass. Try 'Incor'* on your next job. Made and sold by producers of Lone Star Cement, subsidiaries of International Cement Corporation, New York; also sold by other leading cement manufacturers.
*Reg. U. S. Pat. Off.

'INCOR' 24-Hour Cement

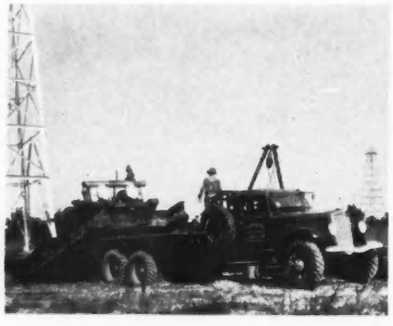
FIELD EQUIPMENT Featured at International Petroleum Exposition

International Harvester Company

International Harvester Company is displaying a wide variety of equipment that may be divided into three groups —one consisting of three types of tractors, another of three types of motor trucks, and the third of six types of power units. The exhibit will be in Block M between the Oklahoma and Texas buildings.

▪ *Motor Trucks*

Included in the display will be three new types of International motor trucks, two of these being of the new line of nine International six-wheel motor trucks and the other of the new line of five International two-speed axle motor trucks. Winches and oil well servicing equipment will be shown mounted on the trucks.



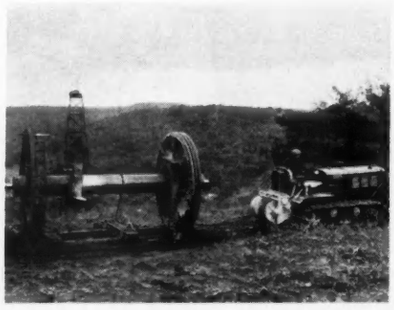
International Six-Wheel Truck for Oil Field Use

The new International six-wheel motor trucks are of either the trailing-axle or dual-drive type. One of the models displayed is of the dual-drive type, a Model C-55-F rated at from 3½ to 7 tons and the other also a dual-drive Model A-8-F rated at 5 to 10 tons. The problem of compensating for differences in tire size due to different makes, various air pressures, and wear in this dual-drive is solved by the use of a third or auxiliary differential.

The new line of two-speed axle Internationals is represented by the 1½-ton Model CS-30. With two-speed axle construction all the advantages offered both by the high-speed and low-speed axle ratios are combined in one unit. Thus the low-gear axle ratio enables one to operate up steep hills and over rough roads without sacrificing pay loads, while the high-gear axle ratio permits high speeds on level roads or with light loads. A cutaway of the two-speed axle will also be on display and will greatly facilitate the study of this interesting line of new trucks.

▪ *Power Units*

Among the six International power units to be shown is the PD-40 Diesel operated by a four-cylinder, four-stroke-cycle, valve-in-head Diesel engine. A distinctive system of starting makes it possible for the operator to crank the International Diesel engine easily. To do this, a special device set by the operator but automatically disengaged is employed to reduce the compression pressure and place in operation a gasoline carburetor and magneto. In starting, then, the engine is operated as a conventional gasoline engine until this automatic device cuts out and shuts off the connection to the carburetor and the spark plugs and



International-Harvester Tractor at work

disengages the magneto, thus restoring full Diesel pressure. The engine then operates on the regular Diesel cycle.

Study of the Diesel engine used in the International PD-40 power unit and also the TD-40 Diesel TracTrac-Tor will also be facilitated by the display of a cutaway engine. Another special exhibit will be a cutaway heavy-duty motor truck engine, clutch, and transmission.

▪ *Tractors*

Three types of tractors will be on display in the International Harvester exhibit, a Model 30 wheel-type tractor and two crawler tractors, one a Model TA-40 TracTracTor and the other a T-20 TracTracTor. Each of these will also be provided with special oil field equipment. The six International power units to be shown will be the Models 12, 200, P-30, 300, PA-50 and PD-40.

The Titusville Iron Works Company

▪ *Gas and Diesel Engines*

The Titusville Iron Works Company, Titusville, Pennsylvania, is showing a 12 by 15-inch Diesel Type "BL" engine and a 12½ by 15-inch Type "BL" gas engine.

These engines are practically the same except for the size of the cylinder and that the gas engine is equipped with a belt driven governor instead of a layshaft. They are provided with heavy frames, and crankshafts and layshafts are equipped with Timken bearings. The gear box, easily removable, is held by four studs, and the water pump is built in. The engines are convertible and can be changed from oil to gas in a very few minutes, the manufacturer claims.

Injection equipment of the engine is Bosch throughout, using an oversize filter. The crank case is tight to prevent leakage and infiltration of foreign matter. Crankshaft and connecting rods are of forged alloy heat treated steel. Crossheads are of cast steel. Cylinders are of semi-steel, and the Bosch nozzle holder is exposed directly to cooling water. Pistons are each equipped with six hammered rings and metallic packing is used to seal the oil from the frame to the cylinder.

Linear Packing & Rubber Company, Inc.

▪ *Packing*

Two comparatively recent packing developments are being shown by Linear Packing & Rubber Company, Inc., Philadelphia, which concern is exhibiting in the Frick-Reid Supply Corporation building.

One of the products is a self-sealing packing-in ring form, known by the trade name of "Par Packings." Their construction insures automatic sealing of the stuffing box. The design forces the lips of the adjoining ring to the sides of the box and to the rod under pressure. The more pressure the tighter the seal.

"Par Packings" are furnished in various constructions for hydraulic, high temperature, hot water and cold or hot petroleum service. For the latter usage

Linear "Par Packings"

Linear Perelin Compound is used, which is impervious to petroleum solvents.

The other new product is an unusual type of packing that is an all-purpose plastic made in square coil form. It is known as Linear No. 900-3. This is a general service packing, fully compressed, requiring no retamping, and is installed readily. It is non-metallic and contains graphite; used for all pressures and temperatures. This square coil plastic saves time and labor; it is by no means an emergency packing, but is a long wearing and non-scoring packing.

Other types of packings on display at the Linear Booth include high-pressure asbestos, white hydraulic flax, duck and rubber, and compressed sheet.

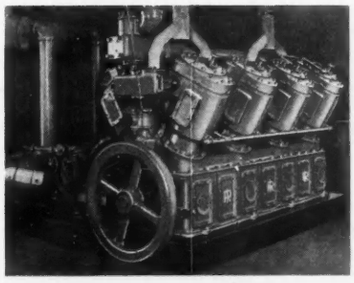
Linear No. 900-3 Packing

FIELD EQUIPMENT Featured at International Petroleum Exposition

Ingersoll-Rand Company

▪ *Gas Engine Driven Compressor*

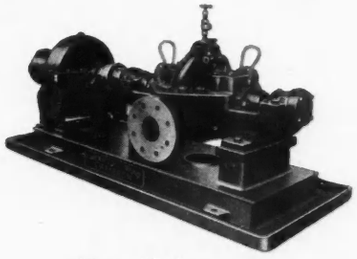
Ingersoll-Rand Company, Phillipsburg, New Jersey, is exhibiting a 260 horsepower Type XVG gas engine driven compressor, available in 60, 125, 190 and 260 horsepower sizes. The units are compact and easy to install, since they are shipped completely assembled. Ninety-five percent of the running parts are interchangeable among the different size units, the manufacturer claims. Compressor cylinders are furnished to suit any commercial vacuum and pressure range. They have a wide range of application in gas lift, refinery and other petroleum industry applications.



Type XVG Compressor

▪ *Portable Compressors*

Ingersoll-Rand also has on display a two-stage air-cooled Type 40 portable compressor driven by an oil engine. These units are available in a complete range of sizes for either gasoline or oil engine drive. Such features as two-stage construction, air-cooled intercooler, clutch, Timken bearings and improved regulation in addition to high efficiency and durable construction assure economical operation and low maintenance costs.



Type 40 Compressor

▪ *Impact Wrench*

Another item of the exhibit is an impact wrench, a pneumatic invention. It is claimed the wrench will run up and tighten or loosen and remove nuts almost instantly, even if they are corroded or frozen. The wrench weighs 22 pounds and is made in both reversible and non-reversible types.

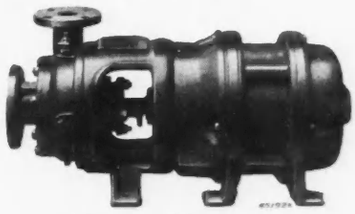
Impact Wrench

▪ *Starting Compressor*

Ingersoll-Rand Type 30 Diesel and gas engine starting compressors are air-cooled and, therefore, require no water connections. They are automatic in operation. These compressors are available in a wide range of sizes with either motor or engine drive.

▪ *Motorpump*

Cameron Motorpumps, built and displayed by Ingersoll-Rand, are applicable to many pumping jobs in fields and refineries. They are compact units with built-in motors, operate in any position, and do not require special foundation. Units are available in sizes from ¼- to 40-horsepower for capacities from 5 to 1000 gallons per minute against heads as high as 500 feet.



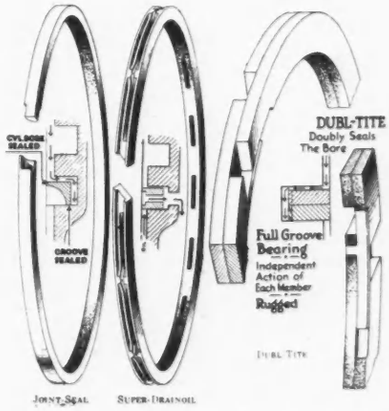
Cameron Motorpump

Sealed Power Corporation

▪ *Piston Rings for All Uses*

Sealed Power Corporation, Muskegon, Michigan, is displaying a line of industrial piston rings for every purpose. Special types of rings shown include segmental, multiple or obdurator rings.

Sealed Power piston rings are cast individually and out-of-round. The desired shape and tension is cast into it. The internal stress is so controlled that a pre-determined uniform radial pressure with maximum flexibility and strength is assured. No external treatment is ever used to breakdown or distort the molecular structure, according to the manufacturer, who also claims that Sealed Power piston rings are close-grained, tough and of a dense structure that is highly resilient. The iron has a wide uniform distribution of the graphitic carbon surrounded by supporting matrix free from segregation and with a hardness below that of the cylinder in which it operates.



Sealed Power Piston Rings

Elliott Core Drilling Company

▪ *Core Drills*

Elliott Core Drilling Company of Los Angeles, is displaying a drill and two cutter heads, for either soft or hard formations.

Featured in the exhibit is a rotary core drill embodying simplicity, and so designed that necessary repairs can be made in the ordinary field machine shop. The assembly is rugged, supplied with interchangeable hard and soft formation cutters for coring of all formations, and is easy to assemble and to dissemble.

A hard formation cutting head is also represented in the display, featuring ball-bearing construction of all roller cutters in order to give a free-rolling action and to eliminate so far as possible, the tendency to become flat.

To complete the display, one of the company's soft formation cutters is also on exhibit. This unit brings a considerable volume of circulating fluid close to the bottom in order to reduce the possibility of balling. Following the shape of the cutter heads, the device is claimed to assure a straight hole. All cutter heads are faced with Tungsten Carbide.

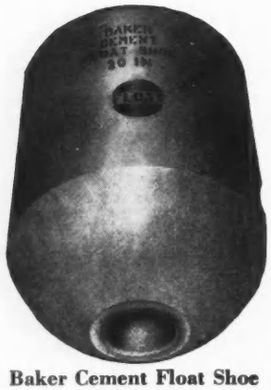
Left: Elliott Combination Core Drill with soft cutter head.
Right: Hard Formation Cutter Head.

Baker Oil Tools, Inc.

Baker Oil Tools, Inc., with plants at Houston, and Huntington Park, Calif., is exhibiting its complete line of cement equipment for: (a) the guiding, floating and cementing of strings of casing; and (b) for all special cementing application.

▪ *Cement Float Shoes*

The Baker cement float shoe is a complete unit capable of guiding, floating and cementing any string of casing, including long and heavy strings. It has strength beyond the collapsing strength of the casing; double-seal valve efficiency for floating and cementing; and complete Drillability which eliminates the many objectionable and costly defects of ordinary equipment where metal is used in the construction of the plug and valve assembly.



Baker Cement Float Shoe

A Baker Bakelite valve assembly is anchored on end (inside a concrete plug) within a seamless steel casing shoe. The concrete extends below the shoe, and is rounded to form a strong, efficient guide.

A round hole leads downward into the Bakelite valve chamber which contains a Bakelite ball that floats in mud or cement slurry. The slightest reversal of pressure causes the ball to move upward against the rubber ring (recessed in a deep groove in the Bakelite) where it provides a leakproof double-seal.

Baker Cement Float Collar

▪ *Cement Float Collars*

The Baker cement float collar relieves the strain on casing, couplings, derrick and rig equipment, and provides safety against almost irreparable damage in event the pipe accidentally is dropped. The internal construction of Baker cement float collars is the same as other Baker "floating" units.

▪ *Cement Whirler Float Shoes*

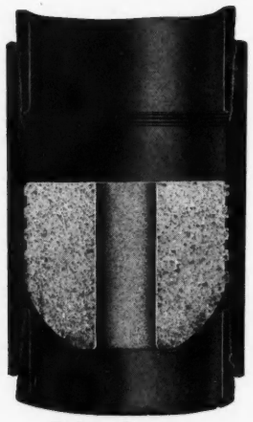
Baker cement whirler float shoes enable operators to proceed with assurance that nothing has been left undone to secure completely satisfactory results. This device is primarily a cementing shoe, but also serves as a strong, safe guide and float for the landing of a string of casing. It is identical in design to the Baker cement float shoe so far as the "floating" features and valve action are concerned. However, in addition to the bottom circulating hole a number of side holes of suitable dimensions lead out from the valve chamber below the valve seat. These side outlets, or ports, are "baffled" by means of plates set in grooves which are cut at an upward angle through the wall of the shoe. After the string of casing has been successfully guided and floated to bottom and cementing is commenced, the side ports direct a portion of the cement slurry upward with a whirling motion.

Cement Whirler Float Shoe

A variation of the regular Baker cement whirler float shoe contains a solid, guide-shaped cement Bull Plug, which extends below the shoe and diverts the flow of all cement through the baffled side ports.

▪ *Cement Baffle Collars*

Baker cement baffle collars are made either solid or with hole. When made with hole, the collar is usually placed one or two joints above bottom, and serves as a "stop" for the cementing plug when a string of casing is being cemented. The solid type is used in combination cementing jobs in conjunction with a perforated nipple and a cement float collar.



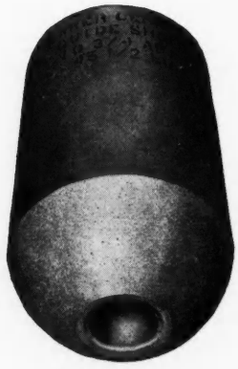
Baker Cement Baffle Collar with Hole

In both types the internal plug is made wholly of Baker-Formula concrete, which is amply strong to meet all requirements, and is later quickly and easily drilled out—no metal is used—thus leaving the hole free from any objectionable fragments which might obstruct or endanger subsequent operations.

▪ *Cement Guide Shoes*

A casing shoe and guide in which only concrete is used for the internal construction and guide, make it possible that they be drilled out and drilled up easily, with a minimum bit expense, and circulated out of the hole.

It is possible with Baker cement guide shoes to core immediately below the shoe (without danger of losing the



Baker Cement Guide Shoe

ORIFICE METERS . . .
FLOWMETERS . . .
Developed and manufactured to standards of accuracy established in the measurement of volumes as minute as the gas pilot light's flow. Noted for their extreme simplicity of construction, ruggedness, and easy adjustment.
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IRONCASE METERS . . .
Body, table, partition, outlet channel and diaphragm channels cast as one unit, eliminating internal leakage . . . Alemite lubrication . . . Dust protection of operating parts . . . Scientific metallurgy . . . Diaphragm quality.
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They take the mathematics out of customer relations. No clutches or slippage . . . a mechanism which gives positive integration. The great customer satisfaction derived from this instrument in service is striking testimony of its value.
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AMERICAN METER COMPANY
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ESTABLISHED 1836
METRIC METAL WORKS
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WESTCOTT & GREIS, INC., DIVISION OF AMERICAN METER COMPANY, INC.
BOOTHS 41, 42, 43 . . . INTERNATIONAL PETROLEUM EXPOSITION . . . TULSA

core). The hole also is left free from any metal or other dangerous fragments which often obstruct further operations, or make them hazardous.

Baker-Formula concrete is used inside a seamless steel casing shoe, which is made with an outside diameter slightly larger than the casing couplings above it, and an inside diameter closely approximating that of the casing.

▪ *Whirler Cementing Collars, with Basket*

This unit provides a successful and economical method of cementing a combination string of casing where the upper portion is used as a water string and the lower portion as an oil string. It is an efficient device for cementing-off at any desired point in the string.

Baker Cement Whirler Collar with Basket

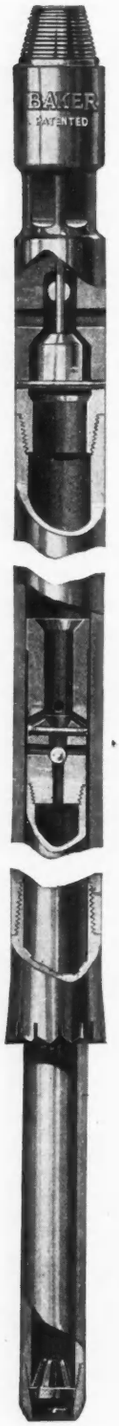
The basket serves as an outside packer to prevent any cement from coming in contact with the oil sand, and serves also to catch any cavings from above and utilize them in helping pack-off. Various types and adaptations of the Baker whirler cementing collar are available.

▪ *Baker Model F Cement Retainer*

The device permits placement of cement in a well, under pressure, through tubing or drill pipe, and is particularly efficient where circulation cannot be secured or can be broken only under great pressure. It can be set at any desired point in the casing or liner. Besides performing many cementing jobs, this tool also serves as a casing bridge plug to prevent fluid movement either up or down the well. When used as a temporary plug, the cast-iron metal parts are drilled up and disposed of.

▪ *Rotary Core Barrel*

Baker Oil Tools, Inc., also displays a cut-away model of its rotary core barrel. The inner assembly or core retaining tube is suspended from the top of the outer barrel by means of a swivel. The core retaining tube thus remains stationary and receives the core while the drill barrel revolves around it and cuts the formation. An unrestricted flow of the circulating fluid around the inner tube for its entire length is permitted by the design. When the fluid reaches the Drill Shoe it is deflected away from the core which is being cut, and passes around and through the teeth of the Drill Shoe. This constant cooling and lubrication action of the drill shoe teeth prevents burning of the core; exposes new formation for cutting; increases the effectiveness of the sub-diamond set teeth; and prolongs their life.



Cable Tool Core Barrel

Rotary Core Barrel

▪ *Cable Tool Core Barrel*

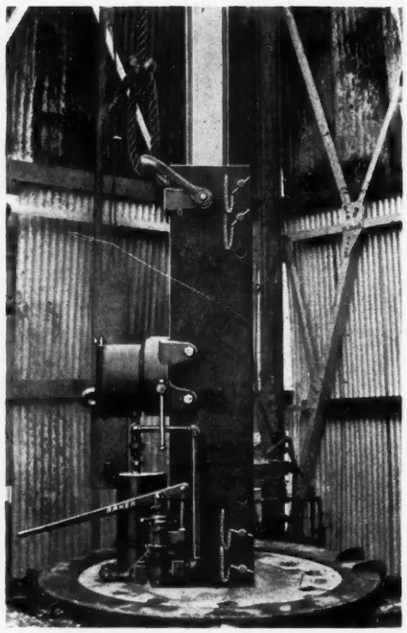
Baker Oil Tools, Inc., also exhibits a full size sectional model of its standard core barrel, which consists of two principal parts—the outer drilling barrel, and the inner, core-retaining tube. In action the inner barrel rests on bottom while the drilling barrel is operated with a slightly slower motion and a shorter stroke than is used when drilling with a bit. The core retaining tube follows down over the core which is being cut by the drilling barrel, and an accurate cross-section of all formation enters the barrel and is positively retained.

The finger type core trap ring securely holds cores from all types of formations. Another important feature is a unique valve arrangement which prevents any fluid from entering the core retaining tube, but serves to direct the fluid between the inner and outer barrel, on the downstroke, with such hydraulic force that the teeth of the drill shoe are kept free from cuttings, and new formation is constantly exposed.

▪ *Kelly Straightener*

The Baker portable hydraulic straightener is equally efficient for Kellys or drill pipe, and utilizes the principle of the hydraulic ram as the force built up by a manually operated pump is applied.

It is transported on a light truck or trailer and is easily set up with a cat-



Baker Kelly Straightener

line on the rotary table; the Kelly or drill pipe is then straightened while it hangs suspended in the derrick.

▪ *Rotary Wall Scraper*

At the Tulsa Exposition, Baker Oil Tools Inc., will have on display a cut-away, full size model of the Baker rotary hydraulic expansion wall scraper.

Rotary Wall Scraper

A body made of selected alloy steel contains a piston which is forced downward when pump pressure is applied, thus expanding the two blades upward and outward against the formation. When rotation is commenced these blades cut their way into the formation until they are fully expanded, and are then held in open position by the shoulder they have cut. Ample circulation holes direct the fluid gainst the cutting edge of each blade, and rotation is continued until the desired results are obtained.

When rotation is stopped and the string is raised, an enclosed spring serves to close the blades downward into the body. If, however, some piece of metal or other debris (Remaining in the hole from previous drilling operations) should lodge between the blade and the body of the wall scraper, the powerful shearing action which results when the top of the blade contacts the casing shoe will either dislodge or cut through such debris. The blades then close safely into the body and the wall scraper readily enters the casing.

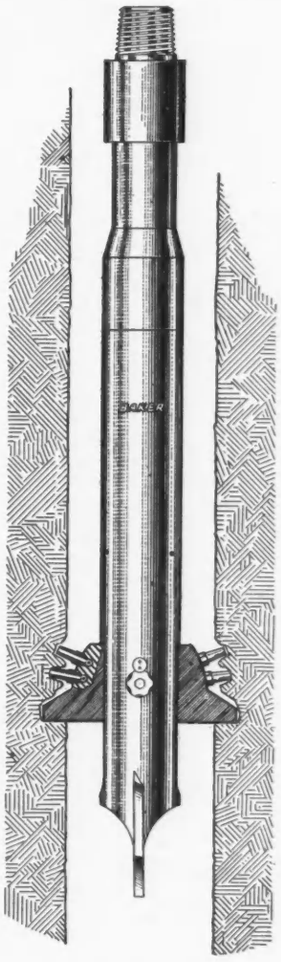
This device is made in 7 different sizes which present a range of reaming sizes from 4 inches to 29 inches, depending upon the size of wall scraper and size of blade used.

▪ *Rotary Hydraulic Wall Sampler*

This new device will secure cores at any depth from the formation in the side walls of a previously drilled hole in which casing has not been set.

Fundamentally this tool consists of a pair of special blades for the Baker wall scraper (above described) each blade having two core-taking tubes screwed into the upper section of the flat outer edge.

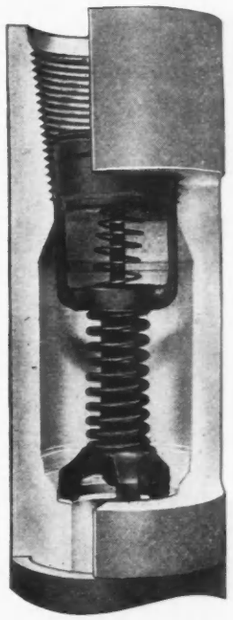
These blades remain safely inside the body while running-in the hole. After the desired depth is reached, pump pressure on an enclosed piston causes the blades to expand and contact the formation. The weight of the string of drill pipe is then slowly and steadily placed upon the tool which causes the tubes in both blades to cut cores from the walls of the hole and also forces the bottom of the blade into the formation. When pump pressure is stopped and the string is raised, the blades close safely into the body, with samples of the formation usually intact in all four core tubes.



Rotary Hydraulic Wall Sampler

▪ *Bakwik Drill Pipe Float*

Full size working model of a drill pipe float with threadless valve assembly will be on display by Baker Oil Tools. Inc. The Bakwik drill pipe float contains a valve assembly constructed entirely without threads, which is merely dropped into position (on a strong shoulder) without the use of wrenches or special tools. To remove the valve assembly, it is simply lifted out of the "float joint" by hand (see illustration) and a full, unrestricted opening is provided through the body. Made in both regular type and full hole type.



Bakwik Drill Pipe Float

Jones & Laughlin Steel Corporation

▪ *Tubular Goods*

Jones & Laughlin Steel Corporation is exhibiting a comprehensive display of seamless and welded oil country tubular goods and other steel products used by the oil industry. Of particular interest are the two cut-away sections of integral joint drill pipe which show clearly the forged upset box and pin ends of this newly developed drill pipe. Also shown are the especially prepared samples of regular drill pipe, casing, tubing and line pipe with portions of their walls removed permitting close examination of wall thickness, contour of upset and threads. An application of the seamless line pipe is demonstrated by a sample "Texas joint" which has a segment removed to give a clear view of the longitudinal section of the joint. Maintenance men in particular will be interested in the unique display of the hot rolled seamless steel boiler tubes, which is presented in a manner that shows clearly the uniformity of these tubes and the high quality beading in job that may be obtained with them.

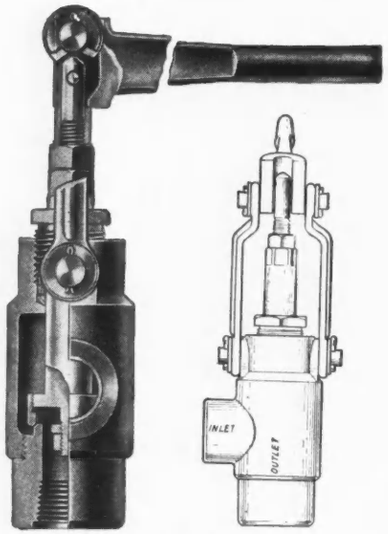
In addition to the tubes and drill pipe, the same company is showing oil containers of tin plate, beams, standard structural shapes, concrete reinforcing and other construction products.

FIELD EQUIPMENT Featured at International Petroleum Exposition

American Iron & Machine Works Company

▪ *American Release Valve*

The latest product of American Iron & Machine Works Company, Oklahoma City, Oklahoma, is the American release valve, and is among its items on display. It is made with a piston and rubber composition valve and steel seat that does not have to be brought into

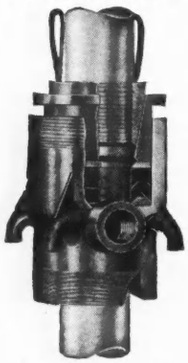


American Release Valve

a shop to be worked over. If the valve comes off, the bottom part is replaced and composition rubber valve replaced in retaining ring. The American release valve is designed so that cutting is practically eliminated.

▪ *Casing Suspender and Blowout Preventer*

This device was developed for use in fields where high pressure is a hazard and where there are more than one oil sand. It is possible to suspend casing at any point in the hole, as lips are full circle and do not cause a crimping, or egg shape, place in casing. Packing consists of three rings of composition packing that is tested for salt water and other ingredients encountered in different oil fields. Fireproof packing is furnished on order.



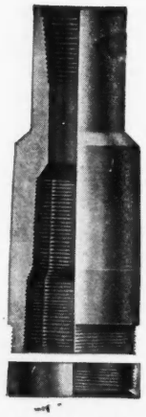
American Casing Suspender and Blowout Preventer

The American casing suspender and blowout preventer has four tie down lugs cast on the sides to be used with the American tie down flange, or other methods of tying down. It is tested to 5000 pounds.

▪ *American Female Die Nipples*

Quite often a drill stem is broken off where the overshot cannot take hold and the die nipple is then run to take hold. This die nipple is made in steps to take hold of pipe, coupling or tool joint. It is made with either tool box or drill pipe connection on top.

Releasing and Circulating Spear



Female Die Nipple

▪ *American Releasing and Circulating Spear*

This spear, made so as to pack off inside of broken drill pipe or casing, will withstand any amount of pressure and, if circulation can be broken through the fish. It is made with a hollow stem for circulation and with a one-piece slip that expands by pulling up on drill stem when hold of fish. In case the fish cannot be pulled, just turn drill stem to right and slips pull away from mandrel and then come on out of hole. Set the slips to the inside diameter of fish to be caught, as the split slip allows same to contract when going into pipe.

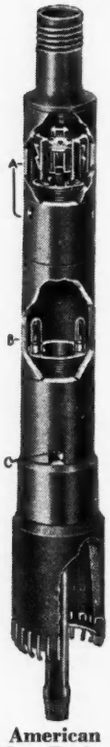
This type spear is also popular for catching tubing, as it does not egg-shape pipe, due to the fact that the slips are a full circle. The American Iron spear can be pulled from pipe on the derrick floor.

▪ *American Milling Shoes*

American milling shoes, type E, type F and type D, are made to run on the bottom of the American overshot. The type F milling shoe is used where pipe or tool joint is broken off, leaving a rough edge. The type F milling shoe is to mill out junk that might be on outside of fish, or to wash over fish in case of tight hole. Where the pipe is in a cavity and wall hook cannot straighten it, American Iron milling shoes can be run on bottom of overshot to mill over the pipe and at the same time overshot will take hold of the fish.

Milling Shoes

▪ *American Flowing and Pumping Packer*



American Flow Packer

This packer is run on tubing and is designed to allow fluid to pass through packer while running and does not have to be snubbed in, due to the equalizing of pressure. It has a tapered cut that seals to the wall of casing from absorption of fluid and pressure. In running, if the well is flowing or flows by heads, use a tubing oil saver, in that way flow can be diverted through casing to tanks.

When ready to set, a bolt about one inch by two feet long is dropped down tubing to break disc that holds up "A" valves, and then all oil on outside of tubing will drain back through "A" valves and leave outside of tubing dry.

When packer is to be pulled, there is no oil to combat, no mechanical appliances on packer to sand or corrode up. If well is about to be pumped, a common barrel is run below packer, run rods in and hook on the pump. This has, in most cases, allowed well to be pumped a few minutes and then they will flow balance of production. The well may be flowed by artificial pressure by forcing pressure down inside of casing and returning through "A" valve. It is suggested that a bull plug be placed on bottom joint and that joint be perforated and set near oil sand. Gas comes up through "B" valves and meets fluid at point in tubing and helps flow the well.

American Forged Steel Sub

▪ *American Forged Steel Subs*

These subs are made in three types. Type G and H to be used with overshot to connect from casing to tool joint. Type K is used for connecting up different sizes of pipe. American Iron and Machine Works Company also make subs for kellys and other connections that might be made on a drill stem. The type H sub is long enough to allow elevators and slips to take hold at the same time.

▪ *American Drill Pipe Float*

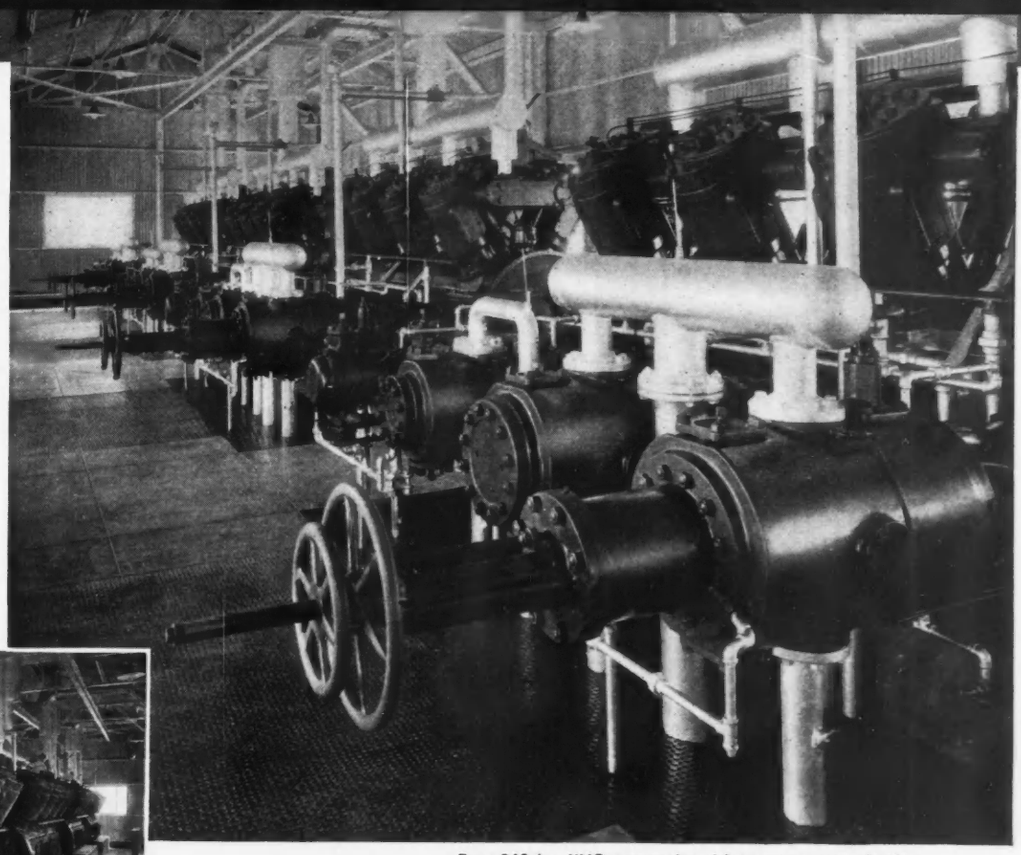
This is a drill pipe float designed to run in the string of drill pipe to break the fall of pipe, in case the pipe should part or break. It is also used for float-

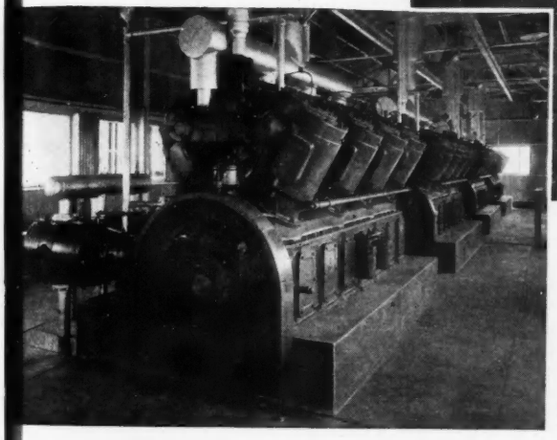
FIRST CHOICE IN THE OIL FIELDS

Ingersoll-Rand

X V G

Gas-Engine-Driven Compressors





Four 260 hp. XVG gas-engine-driven compressors in the Ventura fields, California.

Because

1. Installation costs are lower.

The XVG requires smaller foundations and less building space; units are shipped completely assembled simplifying installation.

2. Maintenance costs are lower.

All working parts are easily accessible, and small power cylinders eliminate costly engine trouble.

3. Operating economy is high.

Small power cylinders operate at more efficient temperatures and built-in recirculating water pumps maintain most efficient temperatures.

4. Maximum plant flexibility is obtained.

Four sizes 60, 125, 190 and 260 hp., allow any power combination. 95% of parts are interchangeable among various sizes.

5. Cost of moving to other sites is low.

Complete unit can be hauled to a new location and placed on new foundation.

See our exhibit at the Tulsa Petroleum Exposition May 16 to 23.

LET OUR ENGINEERS GIVE YOU COMPLETE DETAILS ON THESE UNITS

Ingersoll-Rand

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FIELD EQUIPMENT Featured at International Petroleum Exposition

American Drill Pipe Float

American Steam Lubricator

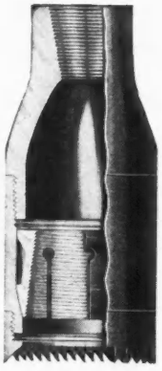
ing drill pipe into the hole. The American float is made so that the assembly can be milled out in case of stuck string, and then go down to top of fish and try to circulate.

▪ *American Steam Lubricator*

The American steam lubricator is made in 12-gallon size. It lubricates both engine and pump from one point. It is placed on the steam line near the boilers.

▪ *American Cone Fishing Socket*

This tool is made to catch worn or broken cones that cannot be caught with the cone fishing basket, which is made from a piece of pipe. The American cone fishing socket is made with slips placed in the bowl on a taper, bottom milled to cut any shale or boulder away and core ahead, forcing cones into the slips.

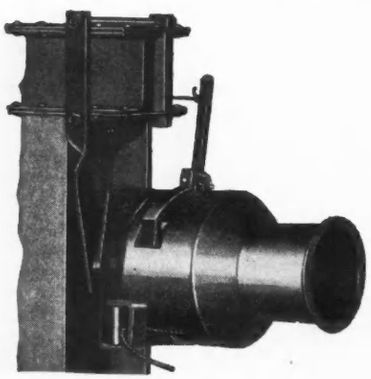


Rock Bit Cone Fishing Socket

▪ *American Automatic Cathead*

The American automatic cathead is composed of only nine parts, five of which are working parts. These parts are made of the best material obtainable to withstand hard usage.

The cathead has four point contact, that is, it takes hold on quarter turn of shaft and releases on complete revolution of the shaft. It has a 36-inch stroke, and if tongs are in good condition, will break joint with first contact. The spool is bored to fit any size shaft up to and including 7½ inches. It is keyed on line shaft and fastened over header board with brackets, that allows cathead to be pulled any time, or can be moved with line shaft without removing from same.



American Automatic Cathead

Shot Packed Pump

▪ *American Shot Packed Barrel*

This barrel has proved a time and money saver where sand cuts out cups. Run the barrel on tubing then run plunger on rods, pour a little shot down the tubing and hook on, then start pumping. Afterwards, add shot as needed. There is no need to pull tubing to service barrel until new liners have to be added. A great many of these barrels have been in wells in Seminole and West Texas fields for two or more years without pulling.

▪ *American Side Tracking Mills*

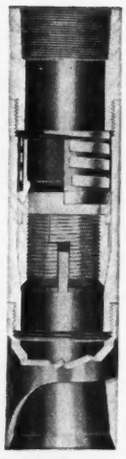
American side tracking mills are made of fine grade steel. They are used where a whipstock has been run and where milling through pipe or casing is desired. They may also be used on collar that catches splinter of casing that is milled out, thereby bringing splinter out and not having to mill same up after the job is completed.

▪ *American Myracle Sucker Rod Socket*

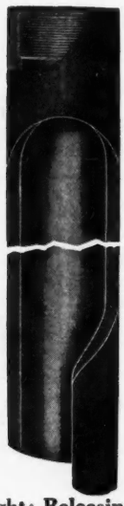
Made with die nipple effect to catch pin that might be broken off in box or in upset. It also has slips to catch size sucker rod that is in use in different sizes of tubing.

▪ *Releasing and Circulating Overshot*

The American releasing and circulating overshot takes hold of fish, drill pipe or tool joint, and the rubber packer fits tight against fish, thereby allowing circulation through the bit, if it is possible to get circulation. In case fish cannot be pulled overshot can be released by letting tension off the drill stem, rotating to right about 10 times, pick up on pipe about two inches, then rotate to right and repeat until slips turn loose. Slips can be furnished for any size pipe or tool joint. This overshot can also be supplied in left hand type for backing off drill stem.



Left: Forged Steel Wall Hook



Right: Releasing and Circulating Overshot

▪ *American Wall Hook*

The American Wall hook is made to run on the American overshot. It allows the pipe to be straightened and the fish caught at the same time. It is necessary only to take the regular guide off the overshot and screw on the wall hook.

▪ *American Boltless Hose Coupling*

This clamp consists of three wedges, three segments and one coupling, or nozzle. It is made with a wedge effect, preventing cutting of hose. Should the clamp work loose, a sledge hammer may be used to drive it on the wedge, thereby tightening. The nozzle is made of steel, treated to withstand a great deal of pressure and cutting.

▪ *Fishtail Bit*

This bit was first made for use in fields where gumbo or soft formations were predominant. During the past two years, it has been used on chalk and other hard formations. This was made

Left: American Hose Coupling

Fish Tail Bit

possible by using different welding compounds.

Water courses at cutting edge allow lubrication at cutting point, thereby preventing burning of bit. Reaming edges, which are well built up, allow bit to ream as it digs, thereby making a straight hole, as well as doing away with extra trips to ream. American fishtail bits are made long enough to permit plenty of dressing.

▪ *American Paraffin Bits*

This tool is made to run on sucker rods for use in tubing, but can be used on sand line by putting on socket and placing two or three polish rods for sinkers. It is also made in casing sizes with cable tool joint as per order. The wings fold up going into the hole, but in coming out they embrace the wall of tubing or casing and clean out the pipe. New wings can be ordered and put on in any shop or at location.

▪ *American Rotary Shoes*

These shoes are made to run on casing for washing over a stuck string of pipe. As a general rule, one or two joints of casing are run with a rotary shoe on them and then the top is snubbed from casing to drill pipe. In some places, more joints are run but as this is dangerous, it is suggested that an inside pipe cutting job be performed first and then over the fish that is left in the hole.

▪ *American Tie Down Flange*

This flange is placed between two flange gate valves. It is grooved to fit any type valve, shortens hook-up by eliminating casing nipples between valves. It also does away with connections between valves. It can be furnished bored to fit over casing to use as casing clamp.

The ends of these flanges are made so as to tie down with either stirrup bolts or tie rods. They are tested to a pressure of 10,000 pounds, but have tensile strength in excess of 100,000 pounds.

▪ *American Tapered Taps*

This tap is used to catch pipe that is so broken that the overshot cannot take hold. It is made in three graduated steps where it will catch drill pipe, tool joint, upset in tool joint or drill pipe. The tap will bend before breaking. These taps are constructed with a hole large enough to allow circulation in case it is needed.

Tapered Tap

▪ *Long Drill Collars*

These collars are designed to help prevent twist-offs, crooked holes and unnecessary costs from plugging back. Made of extra tough alloy steel which is heat treated from end to end in one operation. Helps in drilling straight hole by holding drill stem rigid and firmly on its course. Made in wide range of sizes to meet any drilling requirement.

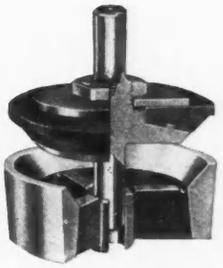
Long Drill Collars

▪ *American Rocker Arms*

American rocker arms eliminate the need for rollers and other wearable parts. Piston rods can be rotated to prevent pistons from wearing on one side. Plunger runs in oil bath. Dust, sand, mud and grit proof.

▪ *Slush Pump Valve and Seat*

These are designed to eliminate trouble caused by cutting out. Only a few parts, all which are scientifically designed and developed to assure positive performance, longer life and satisfactory service—at all times and under all conditions. The cross members are undercut to prevent abrasive substance from fouling seat.



Slush Pump Valve

▪ *Safety Packing Flange*

Designed for use on high-pressure wells where there is danger of sand or other substances cutting out the connection where gate valve is screwed on the oil string. Especially developed for use with flanged end gate valves but can be used with screwed end gate valves by using special clamps, furnished as extra equipment. Has stuffing box arrangement equipped with packing, which forms a pack-off around casing by adjusting the flange bolts. Made to withstand extreme pressure.

Safety Packing Flange

▪ *Pumping Well Christmas Tree*

The American Well Christmas tree requires only two connections on original installation; namely, where Christmas Tree is screwed on to tubing, and lead line to flow tanks, thereby eliminating leak hazards.

All parts are in one compact body, which includes check valve, self-lubricating stuffing box and bleeder outlet. Saves 12 to 14 inches in height with this hook-up, which allows ample room for long stroke, without raising pumping equipment. Body is made of best grade cast steel capable of withstanding severe usage.

▪ *Paraffin Scraper and Sucker Rod Coupling*

A dependable tool that is strong, safe and durable. Valuable for keeping paraffin out of tubing; as guide for crooked holes; to take whip and slap out of rods; to prevent worn string of tubing; to help eliminate pulling rods. Insures perfect drop of traveling valve. One piece, special heat treated alloy steel.

Sucker Rod Coupling and Scraper

FIELD EQUIPMENT Featured at International Petroleum Exposition

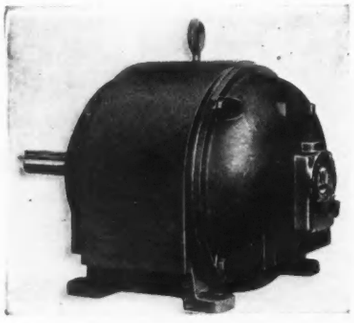
Westinghouse Electric & Mfg. Company

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., is exhibiting a complete line of electrical equipment applicable to oil and gas field service. Certain other devices of its manufacture, relative to the industry are included in the display.

▪ *Micarta Pump Parts*

This pump has a high resistance to corrosion by oils, chemicals and water, and freedom of damage by grit. The material used in its construction is lighter than aluminum, easily machined, and as claimed by the manufacturer as strong as steel for equal weight, uniform in texture and resistant to moisture effects. Micarta is a synthetic resin product.

▪ *Splash and Weather Proof Motors*



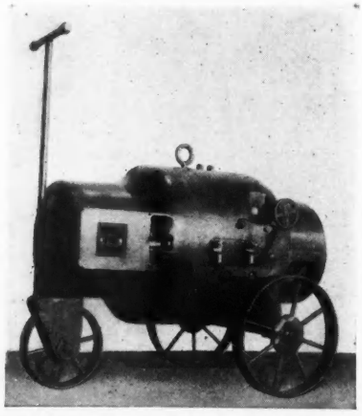
Westinghouse Splash and Weather-Proof Motor

A motor especially adapted to outdoor operation where sour gases are encountered, is a display feature. The unit is built of solid, thick, corrosion resistant castings, and is drip and splash proof. Available with either ball or sealed bearings, they are displayed in both squirrel cage and rotor types and are rated at 50° rise, continuous operation.

▪ *Engine Driven Flexarc Welders*

A new line of recently announced gasoline engine-driven welders is being shown. These welders are available in 200, 300 and 400 ampere sizes of the Flexarc design, and are powered by Chrysler motors. A pre-set current adjustment, steady welding current only very slightly affected by speed variations of the driving unit, low open circuit voltage, and constant current are features, and, due to a characteristic of closely maintaining the welding current after starting cold, make frequent readjustments of the unit unnecessary during the first hour or so of operation. No field rheostat, tap changer, meter, exciter, reactor are used, making the unit one of simplicity. The welders are rated at 40 volts, one hour 50° C. rise in accordance with NEMA standards.

The units incorporate an automatic control, termed a hydraulic idler, which permits the immediate starting up of the set but slows it down after a predetermined period of about one minute, effecting fuel economy. For proper current desired, the operator adjusts the handwheel to the desired value, the automatic control compensating for the load. Each welder is designed to handle both bare and



Westinghouse Flexarc Welders

coated electrodes through a wide range of welding currents. A current polarity switch is an additional control. The sets are also available mounted on various types of wheels for portable operation.

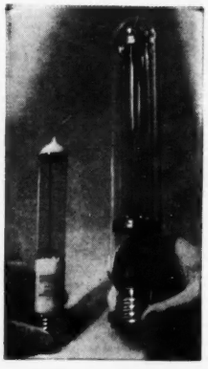
▪ *Oil Well Pumping Gear*

The new gear unit, OP-27-HB, for oil well pumping which the company is showing has a nominal rating of 27 horsepower. This unit is being displayed with the top of the case removed, so the gear and pinion are fully exposed to view and may be seen going "round-'n-round." A 3 horsepower type FD-254 gear motor of standard splash-proof design is used to drive the OP-27-HB gear unit display.

An improved linestarter of the "Deion" design, type DN-1, and a separate disconnect switch are installed as the control for this display. These control units are mounted in Cast Iron cases which give complete protection against the weather.

▪ *Mercury Vapor Light*

A high intensity mercury vapor light is shown which produces 2½ times the illumination as the conventional bulb of the same wattage, and which has a longer life. The greater lumens output allows greater intensity at no increase in power supply cost, and without the necessity of installing additional wiring for capacity illumination. The new lamp is especially



Mercury Vapor Lamp

adaptable to outdoor flood-lighting of service stations and its peculiar ray is especially effective in amphasing some colors; such as grass plots and other verdure. Vapor proof fixtures and combination fixtures are available with the units.

▪ *Polish Rod Dynamometer*

A polish rod dynamometer for graphically recording the instantaneous polish rod loads is exhibited. This dynamometer operates mechanically, is entirely self-contained, and may be handled by one man. There are no electrical or hydraulic parts. With polish rods of standard grades of steel, the graphic record is accurate within 2 percent. The dynamometer may be used above or below the cross arm of the reins.

The instrument is usually clamped onto the polish rod below the reins. In this case the stretch of the polish rod between the clamping points of the instrument is recorded on a chart which is rotated in proportion to the pumping stroke. The recording stylus is actuated by the polish rod stretch—which is multiplied some 400 times. For example a 10,000 pound load on a 1¼-inch rod gives a 1-inch movement on the record.

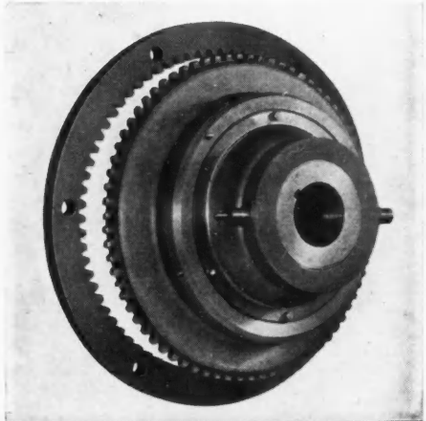
The Shaffer Specialty Company

▪ *Portable Drilling Units*

The Shaffer Specialty Company, Tulsa, is showing a portable rotary, triple engine drive. For drilling 3000- or 4000-foot wells with 4½-inch drill pipe, two engines are used of approximately 160-horsepower each. A third engine can be added, without changing any of the assembled units, for deeper drilling or when using six-inch drill pipe. The unit is said to be adaptable for use with any draw works. Features of this unit are: multiple roller chain, cut steel sprockets, friction clutches, self-aligning roller bearings, all-welded structural frames, alloy steel shafting, roller chain reverse and compounded engines.

More TWIN DISC CLUTCHES ARE IN USE IN OIL FIELD SERVICE *than all other makes combined*

In oil field service *it's performance that counts.* To the experienced oil field operator Twin Disc Clutches and Power Take-Off Units stand for greater reliability in continuous operation . . . with flexibility and power control. That's *why* regardless of who makes the engine, or who builds the rig, you will invariably find that Twin Disc is standard equipment. Why? Because twelve years extensive experience in the oil fields and an intimate knowledge of the industry's requirements have enabled Twin Disc engineers to design clutches and power take-offs that are successfully standing up under the most gruelling conditions. *Write for specific recommendations. Engineering data on request.*



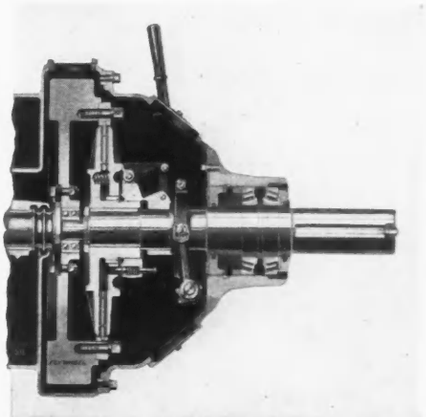
TWIN DISC MODEL "E" SINGLE PLATE CLUTCH

Visit the

TWIN DISC EXHIBIT

SPACES 79 and 132

OKLAHOMA BLDG.



TWIN DISC POWER TAKE-OFF SECTIONAL VIEW

Twin Disc Model "E" Clutches incorporate the latest features in clutch design and provide greatest possible ruggedness. Overall dimensions are held to a minimum to conserve installation room. Maximum bores are large enough to accommodate oversize shafts. Enclosed feature permits operation in the open without special housings or guards. Needle bearings at pivot points of clutch levers, and hardened and ground parts in the engaging mechanism, assure easy engaging action. Available in single or two plate assemblies, from 14" to 36" in diameter; sizes suitable for a range of from 13 to 200 hp. per 100 r.p.m. *Write for Bulletin No. 108.*

The use of high speed multi-cylinder engines in oil well pumping service demands a self-contained power take-off unit as a link in the drive between engine and pumping rig—for efficient starting . . . easy picking up of the load . . . and satisfactory application of pulley or V-belt drive. Complete clutch and power take-off assembly, mounted in rigid, cast iron housing, constitutes a self-contained unit. All anti-friction bearings are selected with liberal safety factors to insure long life. Twin Disc Power Take-Offs are applicable to any commercial engine having S. A. E. flywheel housing dimensions. *Write for Bulletin No. 105.*

TWIN DISC
CLUTCH COMPANY
1336 RACINE ST. RACINE, WIS.

TWIN DISC CLUTCHES

SALES AND SERVICE OFFICE
310 E. 4th ST. TULSA, OKLA.

QUICKER, MORE POSITIVE CONTROL, EASIER OPERATION, LOW UPKEEP, CONTINUOUS SERVICE

FIELD EQUIPMENT Featured at International Petroleum Exposition

J. P. Ratigan

▪ *Sure-Grip Appliances*

J. P. Ratigan, Los Angeles, is showing the Ratigan Sure-Grip devices for oil field service, which feature efficiency, safety and economy.

▪ *Sucker Rod Line Weights*

Ratigan rod line weights are made of electric steel castings, and line shafting 1⅜-inches round, and a ball bearing swivel at each end of the weight, and a special bearing balls 10 in number. It is the same material used in Ratigan rod hooks, and is heavy enough for the longest string of tubing. There is a "C" link attached to each end of the weight which is automatically opened by the use of a quick acting safety pin.

▪ *Ratigan No. 39 Pitman Stirrup Bearing*

This stirrup bearing is a very simple, efficient device, built for years of service. The base or bed is permanently bolted to the beam and contains a half gallon of oil reservoir which is sufficient for several days.

▪ *Ratigan Belt Stretcher*

Ratigan belt stretcher can be easily handled by one man, as it weighs but 50 pounds. It can be stretched out to 10 feet which is four feet longer than the average belt stretcher. The added length makes the job easier and speedier.

In case one man would require more leverage than this handle can afford, he can use a 30-inch piece of pipe for added leverage, without straining the belt stretcher.

▪ *Ratigan No. 14 Triangle "C" Link*

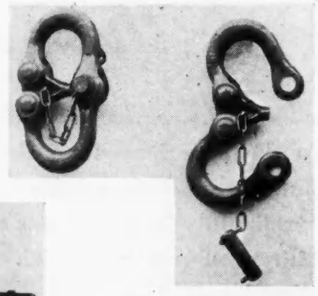
Another Ratigan exhibit is the No. 14 triangle "C" link, which is made in three sizes, with capacities ranging from 60,000 pounds to 150,000 pounds.

▪ *Ratigan Grips and Clamps*

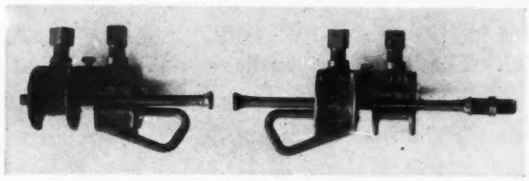
Ratigan grips and clamps will accommodate all depths. Several of the grips and clamps are practical on Jack wells.

▪ *Ratigan No. 98 Pull Rod Grip*

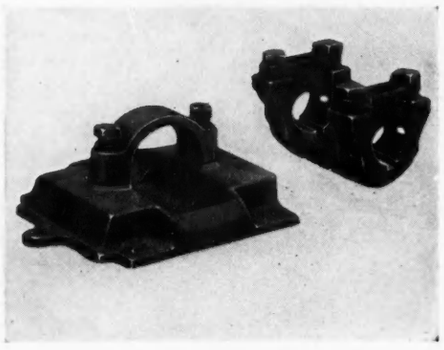
This is a one-piece grip designed to pull rod lines together. It grips a rod two feet, more or less, from the end. The same is done to the opposing rod four feet from the end. The grip is able to exert the great force required to put the two rods together. The pull from the eyes of



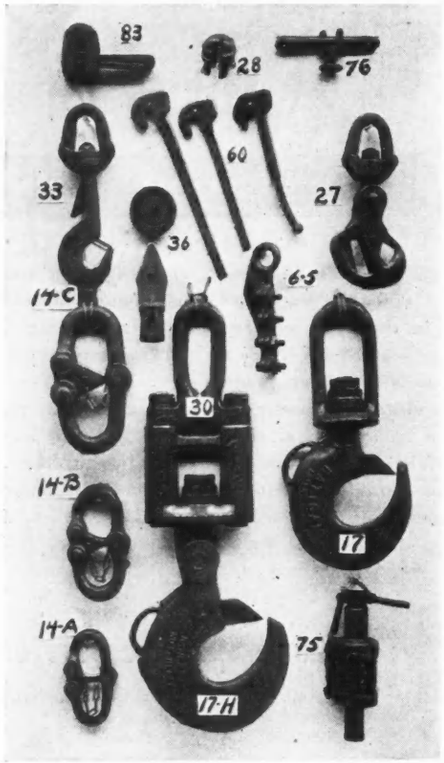
Ratigan Triangle "C" Link



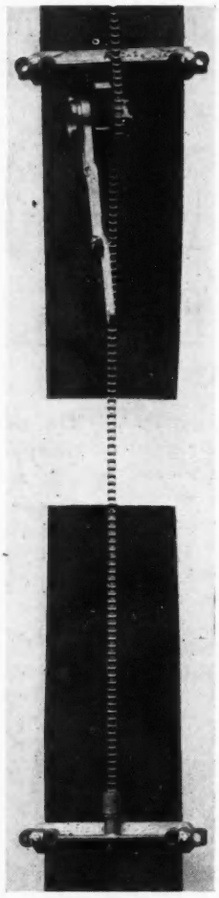
Ratigan No. 98 Pull Rod Grip



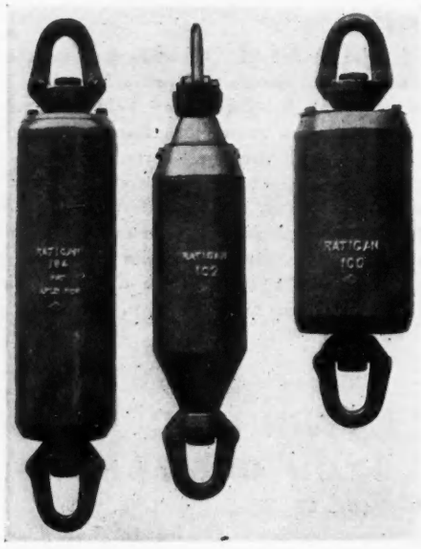
Ratigan No. 39 Pitman Stirrup Bearing



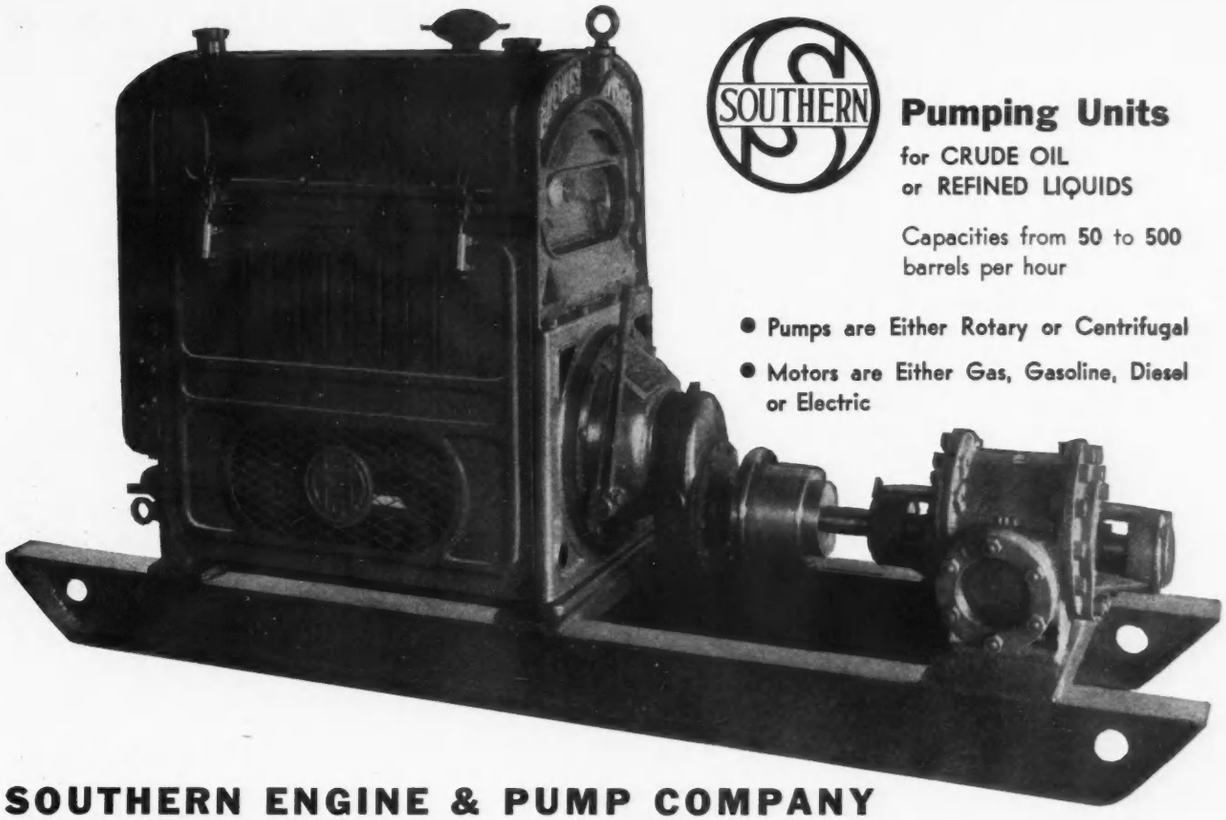
Ratigan Sure-Grip Appliances



Ratigan Belt Stretcher



Ratigan Rod Line Weights



SOUTHERN

Pumping Units
for CRUDE OIL
or REFINED LIQUIDS

Capacities from 50 to 500
barrels per hour

- Pumps are Either Rotary or Centrifugal
- Motors are Either Gas, Gasoline, Diesel or Electric

SOUTHERN ENGINE & PUMP COMPANY
900-910 ST. CHARLES STREET HOUSTON, TEXAS

Anderson-Prichard Oil Corporation
Col-Tex Refining Company

Producers and Refiners

•

ASPHALTS and ROAD OIL

"Industrial and Technical Naphthas"

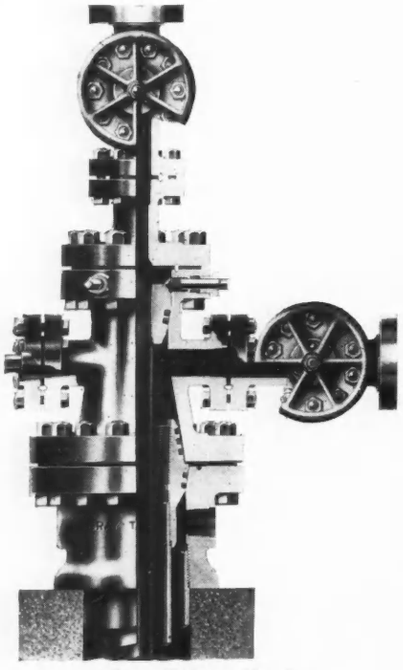
Ramsey Tower Oklahoma City, Okla.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Gray Tool Company

▪ *Gray Tubing Heads*

Among the many Gray tubing heads on dispaly in Gray Tool Company's booth are the Gray A. S. A. series type of tubing heads. These heads are compact in structure with balanced strength at each point. Standard A. S. A. flanges and bolting are provided. All heads are full opening to allow drilling through, running tubing catchers, etc.

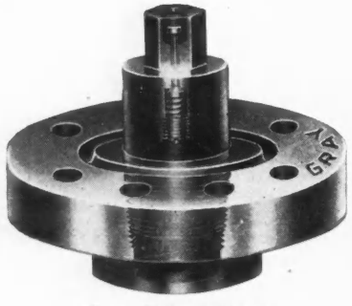


Gray Tubing Head

Master valve, all approved types of blowout preventers, tubing strippers, oil savers, etc., may be directly attached to head for safely, efficiently and conveniently performing all well operations.

▪ *Valve Repair Under Pressure*

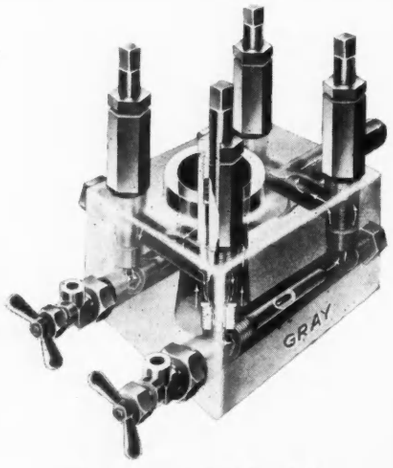
A demonstration will show the mechanism and methods used for repairing valves under pressure. It is simple and safe under the Gray coordinated systems of well control to perform the following operations: replace or repair damaged or leaky valves without killing the well; to remove excess parts so that they may be used elsewhere; to replace corroded working parts safely and easily, and to replace obsolete valves and fittings with improvements.



Gray Valve Repair

▪ *Gray Composite Manifold*

The Gray concentrated control has concentrated numerous parts into one, affording economy and safety, particularly for areas where pressures are high. It is compact and reduces the height for christmas trees and flow line manifolds. Replaceable valves and seats provide for repair in the field.

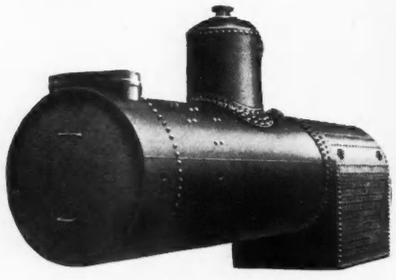


Gray Composite Manifold

Farrar & Trefts

▪ *Boilers*

Farrar & Trefts is exhibiting its oil country boilers in the Continental Supply Company building. Fusion welded barrels in accordance with the A. S. M. E. boiler construction code are used in these boilers. All welds are radiographed to show through penetration and fusion. The entire barrel is stress relieved by heating it uniformly to an even temperature, then hammer tested and hydrostatically tested at twice the working pressure. All barrels have uniform diameters with equal stresses at all points.



Farrar & Trefts Boiler

Blaw-Knox Company

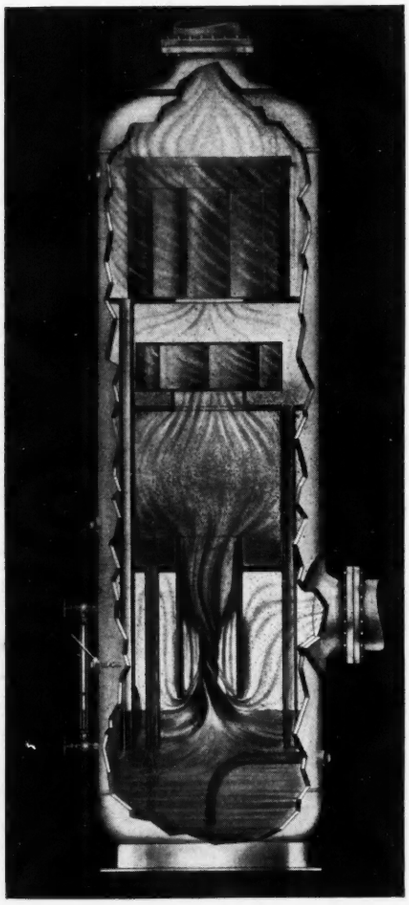
▪ *Gas Cleaner*

Blaw-Knox Company of Pittsburgh, Pennsylvania, is displaying an operating model of one of its gas cleaners.

This unit, designed for the cleaning of natural or other gas of rust flakes, sand, dust and other impurities, both for the protection of compressor stations and other line equipment, operates by means of a broken column of gas coming into intimate contact with a fluid capable of sustaining and depositing such accumulated impurities into an enclosed sump.

The gas to be cleaned enters from the lower side of the unit, drops, and is immediately broken into individual streams. The rising gas carries with it a certain amount of the cleansing fluid which is caught by a mist extractor and returned by drain to the lower section of the unit.

Entrance to the unit is through a manhole, steel-bolted to the lower side. A glass gauge acts as an indicator of the oil level both during operation and while the device is out of service.



Blaw-Knox Gas Cleaner

Protect your well investment by using AXELSON Pumps and Sucker Rods

THE AMERICAN PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION MEMBER

THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

AXELSON MANUFACTURING CO.
P. O. Box 710, Vernon Station, Los Angeles
St. Louis 50 Church St., New York Tulsa
Mid-Continent and Eastern Distributor: **Frick-Reid Supply Corp.**
Rocky Mountain Distributor: **Great Northern Tool & Supply Co.**

"It's a WILLIAMS WRENCH"

● WILLIAMS' Carbon Steel Wrenches render the same type of superior service that has made Williams' "Vulcan" Tongs "the tops" in every oil field in the world. Strong, sturdy, tough—with accurately milled openings—they fit the hand and fill the bill! 50 patterns—over 1000 sizes.

J. H. WILLIAMS & CO.
75 Spring St., New York

Headquarters for: Drop-Forged Wrenches (Carbon and Alloy), Detachable Socket Wrenches, "C" Clamps, Lathe Dogs, Tool Holders, Eye Bolts, Hoist Hooks, Thumb Nuts and Screws, Chain Pipe Tongs and Vises, etc., etc.

"MADE BY THE SAME FOLKS WHO MAKE 'VULCAN' TONGS"

WILLIAMS
SUPERIOR DROP-FORGED TOOLS

FIELD EQUIPMENT Featured at International Petroleum Exposition

Thornhill-Craver Company

▪ *Couplings*

Thornhill-Craver Company, Houston, is showing the complete line of Unibolt couplings, the high pressure steel Unibolt with replaceable seat ring for all pressures and all temperatures, the medium pressure replaceable gasket type, and the "big-inch" coupling with blanking plug for pump suctions in compounding pumps, or for dead-end lines.

The design of the Unibolt involves a new connecting principle whereby only one bolt makes a fast connection in that it functions only to draw together self-locking tapered shelves. Tapered shelves in the nut and on the hub of the coupling are equally spaced around the circle of the seat, exerting an equal pressure at all points of the seat circle. One set of shelves is made integral with one hub of the coupling and the other set is made integral with the nut or outer member of the coupling. The one bolt feature allows faster and easier assembling and dismantling and also permits coupling use in closer, more inaccessible locations.

The "big inch" coupling employs the use of two bolts so that the interchangeable blanking plug can, at any time desired, be interchanged with one hub, forming a dead end. The grooved shelf design on the hubs of the coupling is duplicated on the blanking plug so that it perfectly fits the shelves of the nut. The coupling, when employing use of the blanking plug on pump suction line, serves the job of a gate valve in compounding. It makes a dead end for pipe line work.

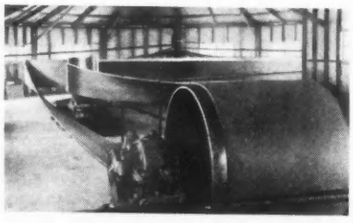
The Republic Rubber Company

▪ *Super Excelo Belting*

Super Excelo belting is one of the products being shown by The Republic Rubber Company. This belt is designed to meet abusive conditions found in the oil industry. It will stand up under continuous grind and severe shocks of heavy pumping and drilling service.

It is constructed from heavy hard woven duck, and thoroughly impregnated with Republic's live, resilient rubber compound so it will retain its strength, flexibility and pulley gripping ability.

Super Excelo can be furnished in any desired width and ply or made endless to order.



Republic Super Excelo Belting

▪ *Republic Endless Cord Belt*

This recent development in belt design can be used on all standard heavy-duty drives. Its flexibility and low stretch make it especially adapted for use on small pulleys or where idler adjustment is limited.

The belt is built up of a continuous length of load carrying cord fabric wound round and round to the specified length and number of plies, then covered with a seamless envelope of hard woven duck that takes the wear and protects the edges. In designing the belt, special consideration has been given to the severe operating conditions and shock loads encountered in deep and heavy pumping operations.

▪ *Champion Rotary Hose*

This high quality rotary hose is built to withstand an initial test pressure of 7500 pounds, and is recommended for depth exceeding 5000 feet with working pressures up to 3000 pounds.

Champion Rotary Hose

The structure consists of a thick abrasion and oil-resisting tube, a primary built of heavy fabric, two layers of strong high carbon steel wire wound in opposite directions, six additional plies of heavy duck and a tough abrasion-resisting cover. The wire reinforcements are cushioned in rubber and wound at the correct angle to reduce expansion and elongation. All parts are impregnated or surrounded thoroughly with high quality rubber, then vulcanized into a homogeneous unit.

▪ *Excelo Rotary Rose*

Excelo rotary hose is built with similar construction and all the toughness, oil-resistance and other qualities of Champion hose, but for working pressures not exceeding 1500 pounds. It is recommended for wells not exceeding 5000 feet in depth. Initial test pressure is 4000 pounds.

▪ *Republic Rotary Hose*

Designed for shallow wells where working pressures do not exceed 900 pounds. Initial test pressure 2000 pounds. Has oil and grit-resisting tube wrapped with nine plies of fabric and reinforced with a spiral of heavy, closely spaced wire, cushioned in rubber. Protected from external abrasion by an additional ply of duck and a heavy, tough rubber cover.

All Republic rotary hose is made in standard sizes of 2 inches, 2½ inches, and 3 inches in lengths up to 50 feet.

▪ *Champion Steam Hose*

This hose is built to withstand high temperatures and pressures. High quality wrapped construction, heat resisting tube—special woven fabric make for maximum life at prevailing high temperatures. Heavy gauge, wear-resisting cover. Recommended for unusual and extremely severe operating conditions. Wire wound when specified.

Republic makes a wide variety of steam hose with different construction to meet the demands of various temperatures and pressures.

▪ *Tower Pneumatic Hose*

Tower pneumatic hose is designed particularly to withstand the deteriorating effects of hot oil, high pulsating pressures and the severe abuse of being

Oil-Resisting Tower Pneumatic Hose

dragged around the oil fields. The tube is made of special oil and heat resisting compound that can actually be saturated with oil for long periods without affecting its serviceability. The braided plies are composed of specially twisted cords which give great strength and yet keep the hose flexible. A new tenacious compound used to impregnate the cords and bond the plies together results in greater resistance to shock and abuse.

The Duff-Norton Manufacturing Company

▪ *Jacks*

The Duff-Norton Manufacturing Company, Pittsburgh, Pennsylvania, is showing a complete line of lifting jacks ranging in capacity from 10 tons to 100 tons.

Duff-Norton is showing for the first time a new automatic lowering jack, the outstanding feature of which is the completely enclosed oil tempered, spring actuated mechanism which takes the place of the former levers, bolts, nuts, screws, etc. The spring mechanism can be removed bodily from the jack at any time that adjustment would be necessary.

In addition, the Duff-Norton exhibits include an improved four-way general purpose jack known as No. 1523.

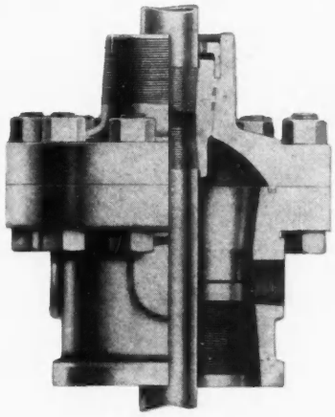
Duff-Norton Four-Way General Purpose Jack

FIELD EQUIPMENT Featured at International Petroleum Exposition

Baash-Ross Tool Company

▪ *Casing and Landing Heads*

Baash-Ross Tool Company, Los Angeles, California, is showing several casing and tubing heads. Among these, the "Type B" furnishes solid support for two strings of casing, is compact and readily adaptable to a wide variety of field requirements. The outer string of casing is welded or threaded to the landing flange. The landing flange is grouted on the floor of the cellar and provides a rigid base for the blowout preventer during drilling for the inner casing string. The inner string is suspended by slips which set in an adapter fitted in the body. By varying the size of the adapter and slips any size of casing that may be run in the



Tubing Head

outer casing can be suspended. A simplified tongue-and-groove packing arrangement permits all joints to be securely packed off by tightening the one set of bolts through the flanges. The upper flange has both male and female threads to accomodate connection to christmas tree or tubing head by means of a nipple. The passage through the body of the head is in all cases equal to or greater than the diameter of the casing suspended in the slips.

▪ *External Drill Pipe Cutter*

This cutter displayed by Baash-Ross consists of a cylindrical body threaded at its upper end for connection to a string of washover pipe and equipped with an overshot shoe at the lower end. Three cutting knives, placed vertically in the lower part of the body, are moved inward gradually against the pipe to be cut by the pressure of a wedge ring which is depressed when the tool is raised after the overshot dogs are in contact with a collar or tool joint. Slow rotation of the fishing string to the right accomplishes the cut. The pipe cut off is held by the overshot dogs and is withdrawn from the hole with the washover string. Several hundred feet of pipe may be recovered with one cut, depending on the length of the washover

Internal Casing Cutter

Drill Pipe Cutter

string. A slip assembly is substituted for the conventional overshot dogs when externally flush pipe is to be cut.

▪ *Internal Casing Cutter*

Several cuts may be made during one run of this cutter, Baash-Ross claims. It is attached to either drill pipe or tubing and run to the point at which the lowest cut is to be made. At this point the fishing string is rotated to release the tailpiece and bring the slips into contact with the casing below the cutting knives. A slight amount of the weight of the fishing string is allowed to rest on the slips in order to expand the knives. Rotation in a screwing direction feeds the knives into the pipe and completes the cut. When a cut is made the weight of the fishing string is taken off the slips and the cutter raised to the position for the next cut. The cut-off portions of the casing are removed after all cuts have been made by means of a spear or other tool.

▪ *Automatic Torque Controlled Rotary Jar*

Another item shown at the booth is the automatic torque controlled straight-pull jar, controlled from the surface. The jar is run into the hole with the desired fishing tool below it. When a hold on the fish is obtained, the fishing string is rotated in a screwing direction from three-fourths of a turn to two or more turns. The torque thus created is held by locking the rotary table or by gripping the pipe with a tong tied to the derrick. Regulation of the tonnage required to trip the jar is made by increasing or decreasing the torque in the fishing string. To trip the jar, an upward strain is taken on the string. After tripping the jar the string is lowered to set it for the next blow. This process may be repeated indefinitely for as long as jarring is necessary, and it is possible to obtain as many as eight blows per minute. The condition of the hole does not affect the action of the jar once it has been adjusted to deliver a blow of the desired strength, the manufacturers state.

Releasing Spear

Automatic Torque Controlled Rotary Jar

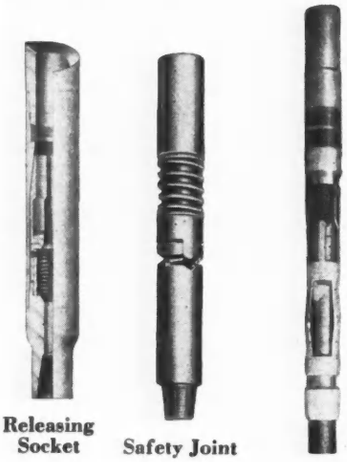
▪ *Rotary Releasing Spear*

Baash-Ross' rotary releasing spear is used in conjunction with rotary jars. Extra long slips are connected to the tail piece sleeve to insure action in unison in contacting the casing. The slips are constructed with flat backs so that they maintain a solid bearing surface at three places. While running-in the slips are locked. When the desired depth is reached, the spear is rotated in a left-hand direction to release the slips and an upward pull sets them evenly in the casing. When the spear is to be released the string is lowered slightly and rotated to the right.

▪ *Releasing Socket*

Slips of the socket shown by Baash-Ross are suspended from a slip holder provided with two vertical slots terminating in horizontal slots which coincide with pins on a sleeve projecting inside the body from the top sub. The pins are in the horizontal slots holding the slips in the released position while the socket is being run into the hole. The socket is allowed to pass over the fish until the top of the fish con-

tacts the lower face of the slip holder. A small amount of weight is allowed to rest on the fish, causing the teeth on the slip holder to keep the slip assembly stationary while the socket is turned slightly in an unscrewing direction to move the pins into the vertical slots. The coil spring holds the slips in contact with the fish as the socket is raised. As the slips are attached to the slip holder they move in unison to grip the fish evenly. To release, the weight of the fishing string is rested on the fish, thus disengaging the slips. By rotating the socket to the right, the slips are locked in the expanded position.



Releasing Socket **Safety Joint** **Packing Liner Hanger**

▪ *Autolock Safety Joint*

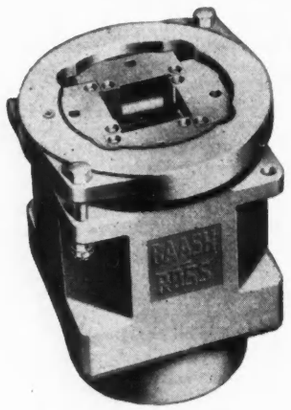
Baash-Ross autolock safety joint on display is designed for use in fishing strings. It is capable of adjustment to permit of rotation in either direction as required in fishing, yet it releases under one-half the torsional strain in an unscrewing direction required to break a tool joint of corresponding size, it is claimed. As long as rotation is maintained in a screwing direction the traverse driving shoulders transmit all of the torque. When the direction of rotation is reversed, however, the torque is transmitted through the tongue of the spring-loaded collar and the notch in the bottom sub. The amount of resistance to unscrewing offered by the tongue and notch is governed by the angle of the mating surfaces and the strength of the spring which holds them in engagement.

▪ *Liner Hanger*

The body of this liner hanger is threaded to connect with the liner and is provided with slips acting on a tapered surface to grip the well casing. While being run in the hole the slips are locked in a free position. When the desired depth is reached they are released and brought into contact with the casing by a slight turn of the drill pipe or tubing used in running the liner. The packing type is used when blank joints are inserted above the perforated portion of the liner. The packing consists of lead or composition rings which are squeezed into tight contact with the casing, forming a perfect and permanent seal, as the packing is unaffected by oil, according to Baash-Ross. The plain type of liner hanger is recommended when support only is needed for the liner to prevent its "drilling" itself into a soft formation.

▪ *Roller Kelly Bushing*

The body of the Baash-Ross roller kelly bushing exhibited is a one-piece steel casing. One standard body is used for kellys of 6-inch diameter or smaller, the body being adapted to the kelly by means of removable roller assemblies, varying in size with the square of the kelly. The roller assemblies, which are four in number, seat in the body to form a square hole lined on all sides with horizontally placed rollers projecting slightly into the hole. As the kelly moves up or down through this passage, the rollers act as bearings, reducing friction to a minimum. A special body is available for seven- and eight-inch Kellys.



Roller Kelly Bushing

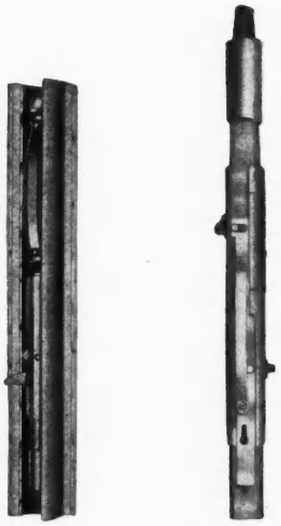
Roller assemblies are inserted or removed by lifting the cover which is screwed in place and held by four bolts and a set screw. It is not necessary to break any subs to install the bushing as there is ample clearance through the body and cover when the roller assemblies are removed. Rollers are made of forged alloy steel, machined and hardened and run on hardened metal pins. High pressure grease fittings provide lubrication.

▪ *Long Knife Perforator*

This tool, displayed by Baash-Ross, perforates two strings of casing with cement between them or a single string with cement back of it. It is run on either rotary or cable tools. When the perforator has been run to the lowest point to be perforated, the tripping of the tail piece releases a double knife assembly. The shorter of the two knives effects a positive grip against the wall of the casing and actuates the longer knife which is forced upward and out through the casing as the tool is driven down by the weight of drill pipe or the blows of a jar. Succeeding perforations are made by lifting the tool a short distance which releases the knives and places them in the proper position to punch the next hole. By rotating the perforator slightly from time to time, holes may be punched on all sides of the casing to secure even distribution.

▪ *Star Wheel Perforator*

The Baash-Ross star wheel perforator is made for use with both rotary and cable tools. The rotary type punches a single row, and the cable tool type punches double rows of evenly spaced slots in casing in the well. In operation, the perforator is lowered beyond the lowest point to be perforated, to determine that the hole is clear, then raised the length of a joint of casing. Raising the cable tool type perforator unlocks the star wheels within the body through the friction of the springs against the casing and forces the drag teeth upward and outward in the inclined slots until they contact the casing. The star wheel of the rotary type is released by rotating the perforator. The perforations are then made through the rotating action of the star wheels caused by the tool being driven downward. To perforate the next and succeeding joints above, the perforator is raised and the operation repeated. The distance between the slots is determined by the number of the cutting points on the star wheels, which vary from one to five.



Long Knife Perforator **Star Wheel Perforator**

A Few Minutes at BOOTH 101, Texas Bldg.

WILL SAVE YOU MONEY

. . . the rest of the year, and every year to follow!
Come and see for yourself why

"The Entirely Different Boiler and Engine Treatment"

. . . has gained such wide acceptance in the Oil Industry.

Sand-Banum is *absolutely harmless* to all equipment and persons applying it. Its action is *mechanical*—it prevents and eliminates scale and corrosion formation by holding all water impurities in colloidal suspension.

It comes *ready for use in 16-ounce cans*; and ounces of these pure colloids do a better job than hundreds of pounds of "boiler chemicals." Sand-Banum is applied only *one* to *four* times per month and it *costs less* per year per boiler or engine.

Sand-Banum is always sold on a *"Satisfaction or No Money"* Guarantee

AMERICAN SAND-BANUM COMPANY, Inc.
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Do You Want THE BEST *In Pumping Equipment?*

You'll find it in BOOTHS 123-124, Texas Building, at the International Petroleum Exposition at Tulsa, May 16-23.

- **Huf-Duo Insert Pump** prevents sanding, saves time and labor, insures long life. For 2″, 2½″ and 3″ tubing.
- **Huf-Stripper Insert Pump,** for stripper wells or continuous pumping of deep wells. Made 1″ for 2″ tubing and 1⅜″ for 2″ tubing.
- **Huf-Supersize Insert Pump** is a large-capacity insert-type working barrel. Eliminates many tubing jobs. For 2½″ and 3″ tubing.
- **Hough Balls and Seats** are guaranteed tight. Five distinct types meet the entire range of operating conditions.
- **Hough Seamless Steel Working Barrels** are made to A.P.I. specifications from highly specialized cold-drawn tubing. All standard sizes.
- **Hough Working Barrel Valves** are close-fitting and efficient. Made to A.P.I. specifications in steel. Bronze if specified.

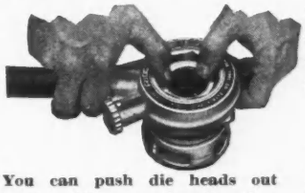
The Charles N. Hough Mfg. Company
Franklin, Pa.

HOUGH OIL WELL SPECIALTIES

THREADS PIPE ANYWHERE without special dies

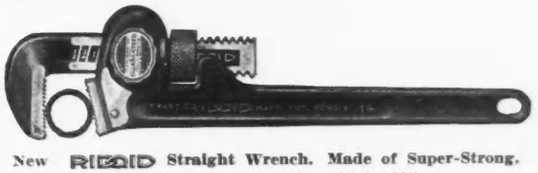
This RIDGID Has a Lot of New Advantages

IT threads those short pipes against a wall without special dies. You simply reverse the die head. The ratchet ring is fitted with a spring ring into which die heads snap *from either side*—and can't fall out. Separate chasers for each size die, made of fine tool steel, accurately cut, long wearing, inexpensive, always cut true clean threads. Die heads have cast-in tempered steel bearings to prevent wear. Ratchet has more than usual number of steel teeth for smoother positive operation. Arrow on ratchet knob indicates direction of pull. Ball handle. Four complete tools each include drive ring assembly, handle and dies in groups of 5 sizes from ⅛″ to 1¼″.



You can push die heads out easily with your thumbs when you want to change sizes—but they never fall out.

It's a full pound lighter than other small ratchet threaders, but "tough." You'll like it. Ask your Jobber.



New RIDGID Straight Wrench. Made of Super-Strong, special alloy metal. Sizes 6″ to 60″.

The Ridge Tool Co. • Elyria, Ohio

RIDGID

EQUIPMENT FEATURED at The International Petroleum Exposition

Caterpillar Tractor Co.

Caterpillar Tractor Company, Peoria, Illinois, displays three members of its new Diesel tractor and industrial engine line.

▪ *Drilling Engine*

Of first interest is its D17000 engine, available either as a power unit or industrial engine, and designed particularly for drilling rigs. This engine is full Diesel, eight-cylinder, V-type, 160 brake horsepower with a governed speed of 850 r.p.m. Bore and stroke are 5¾ inches by 8 inches. The eight cylinders are in two groups of four, set at an angle of 60 degrees. The four-inch, drop-forged crankshaft turns through five main bearings having a combined length of 16 inches. Fuel injection is similar to all Diesel engines of this make. A single row of eight individual fuel pumps is located between the cylinder banks, and all fuel lines are the same length. Fuel and lubricating oil filters, air cleaners, manifolding, cooling and thermostatic control are individually supplied for each cylinder bank. The engine, fan to flywheel, weighs 7150 pounds. It is started by a 28-horsepower, two-cylinder gasoline starting engine of horizontal opposed piston type.

Also on exhibit is the smallest member of Caterpillar's Diesel engine line, the D4400 of 44 brake horsepower, of four-stroke-cycle, four-cylinder design, and with a governed speed of 1400 r.p.m.

▪ *Tractor*

The tractor line is represented by the largest Diesel size, the 95 horsepower RD8 model. This machine will handle the largest oil field winch or sideboom, the manufacturer claims. It is four-stroke-cycle, six-cylinder, full Diesel, with a bore and stroke of 5¾ inches by eight inches. It has six speeds forward, ranging from 1.7 to 5.3 m.p.h., and two reverse speeds. Drawbar pull in first speed is 22,490 pounds. The tractor weighs 32,780 pounds.

The Air-Maze Corporation

▪ *Air Filters*

The Air-Maze Corporation, Cleveland, Ohio, will exhibit a line of air filters for filtering dust out of the air consumed by engines and pumped by air compressors.

Air-Maze Oil Bath Filter

Two types will be shown—oil bath type, in which the air and filter element are washed automatically by oil and a type known as "Multimaze," which is an oil-wetted type.

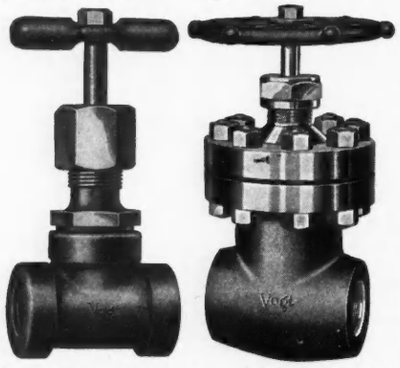
In all types of Air-Maze filters is incorporated the patented Air-Maze filter element which consists of multiple layers of filter screen having uniform density both in surface areas and progressively through. This control of density, the manufacturer claims, results in definite advantages in that they assure positive protection, are easily cleaned, do not clog, and have a minimum of restriction. These filters are exhibited in capacities from 1 to 4000 cubic feet per minute.

Henry Vogt Machine Company

▪ *Valves*

Henry Vogt Machine Company, Louisville, Kentucky, have the following items on display:

Drop forged integral flanged globe and gate valves in series 30-60-90 and 150, with stainless steel trimmings.



Vogt Meter Valve Vogt Manifold Valve

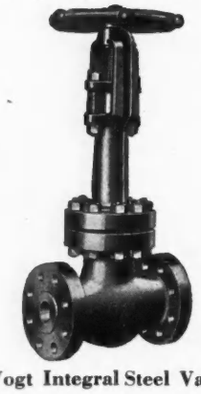
Integral flanged gate valve body with stainless steel linings.

Integral flanged gate valve with bevel gear mounting for remote control.

Drop forged steel manifold valve.

Several sizes of drop forged steel and stainless steel meter and thru-port valves.

The complete line of Vogt drop forged steel valves, fittings and flanges include types especially suited for refineries, power plants, chemical plants and related industries where strength, durability and resistance to corrosion and erosion are required. Proper performance of every



Vogt Integral Steel Valve

valve and fitting is assured by a rigid testing procedure which includes the use of high pressure oil, air or steam to suit the intended service.

Landis Machine Company

▪ *Pipe Machines and Auxiliaries*

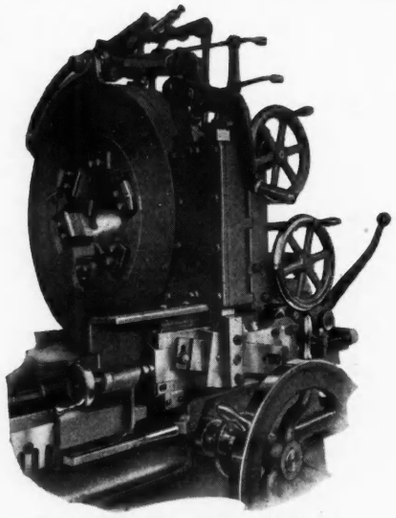
Landis Machine Company, Waynesboro, Penna., is exhibiting a Landis 8⅝-inch receding chaser pipe threading and cutting machine, a new semi-portable pipe threading machine known as the "Little Landis," and a complete line of precision threading die heads and collapsible taps.

The 8⅝-inch receding chaser pipe threading machine is designed primarily for threading casing, tubing and drill pipe. The rigid, powerful construction of the machine together with the free cutting action of the chasers

Landis Threading Machine

obtained through the taper attachment insures accurate, cleanly cut threads on Grade C or Grade D seamless Tubular goods. The machine is a high speed production machine and as it uses the patented Landis chaser it has a low up-keep cost.

The "Little Landis" pipe threading



Landis Threading Machine

machine is designed for jobbing and maintenance threading. It has a capacity up to 2 inch pipe and 1½ inch bolts. The machine features quick set-up changes, low operating cost and a rigid construction to insure years of efficient service.

The sooner you plan your future

. . . the better your future will be

A man either **dies too soon** and needs income for his dependents, or **lives too long** and needs income for himself

WILL YOU BE PREPARED TO LIVE AFTER 60 OR 65?

The Life Income Bond issued by

THE INDIANAPOLIS LIFE INSURANCE COMPANY

will assure MONEY for YOUR FAMILY if you die,
or MONEY FOR YOU at retirement age

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Send me details on your Life Income Bond.

I can save an average each week . . . $1☐ $2☐ $5☐ $10☐

Name Address Date of Birth

Hercules Tool Company

▪ *Casing Head With Slips*

Hercules Tool Company, Tulsa, is exhibiting a line of casing heads, tubing heads, tubing hangers, casing heads with mandrels, pumping and flowing tees.

Casing Head with Slips

The Hercules "Overhead-Packed" Type B forged steel casing head with slips has packing above the slips and does not carry the weight of the casing. Special split steel and rubber packing rings are compressed down on top of the slips or shoulder within the casing head body by means of a split steel packing nut which screws down into the top of the casing head and forms a seal-tight pack. The head is machined inside and out. Working pressures, 2500 to 3000 pounds; test pressure, 5000 to 7000 pounds.

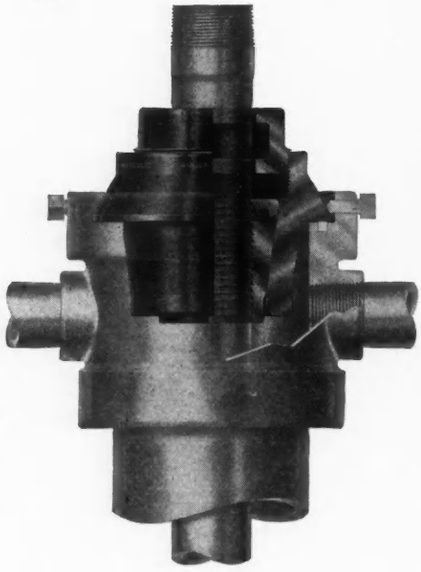
▪ *Casing Head With Mandrel*

Casing Head with Mandrel

The "Overhead-Packed" Type B forged steel casing head with mandrel is of the same design as Type B with slips, and all parts are interchangeable in both heads. Type B with mandrel is available to operators who prefer to hang casing on a mandrel instead of slips. The mandrel is equipped with either a rubber packing insert or three hydraulic packing inserts and gives in reality a double-pack casing head. The heads are available in all sizes. They are adaptable to various methods used for connecting up a well.

▪ *Hercules Tubing Hanger*

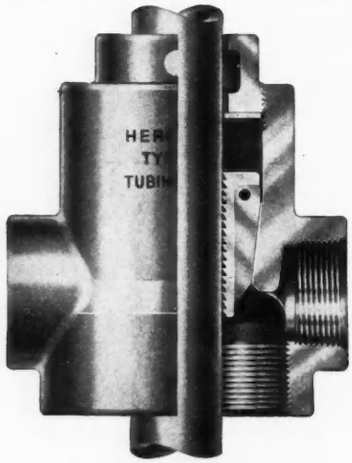
The Hercules tubing hanger exhibited utilizes the overhead-packing arrangement to make a seal-tight pack above the slips. This permits repacking and adjustment of pressure on the packing without lifting tubing or breaking the well connections. Three slips hold tubing securely without pinching. The Hercules tubing hanger fits any standard Berry pattern casing head, according to the manufacturer.



Hercules Tubing Hanger

▪ *Type D-4 Tubing Head*

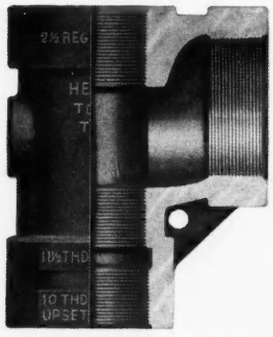
Type D-4 tubing head on display will accommodate any size tubing from 3-inch upset down to 2-inch or smaller, simply by changing parts. The slips, which are made in halves, are dowel-pinned so that when placed around the tubing and dropped into the tubing head they go down together and always grip the tubing evenly. This tubing head eliminates the need for a Berry pattern casing head, and is made of high-grade metal having 2000 pounds test pressure and 1000 pounds working pressure. It will safely support the weight of a string of tubing in wells ranging in depth to 3500 feet.



Type D-4 Tubing Head

▪ *Pumping and Flowing Tee*

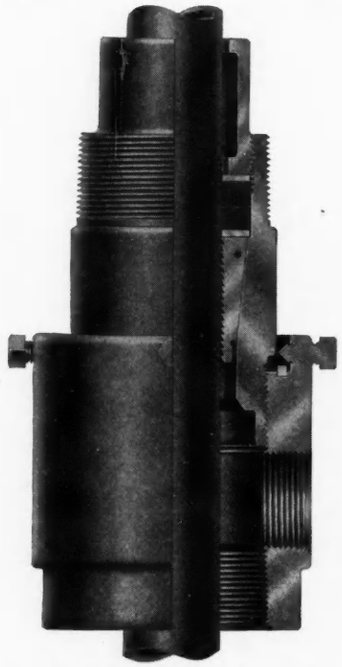
The Hercules upset thread pumping and flowing tee has both regular and upset threads. This eliminates the necessity of cutting off upset tubing threads, or reducing upset to regular threads, before screwing tee onto tubing. Several types of Hercules tubing heads are exhibited, all which utilize the overhead-packing arrangement.



Pumping and Flowing Tee

▪ *Type C-3 Tubing Head*

The Hercules Type C-3 forged steel tubing head was especially designed for high-pressure and for deep wells. It offers the same general advantages as the overhead-packed casing head and tubing



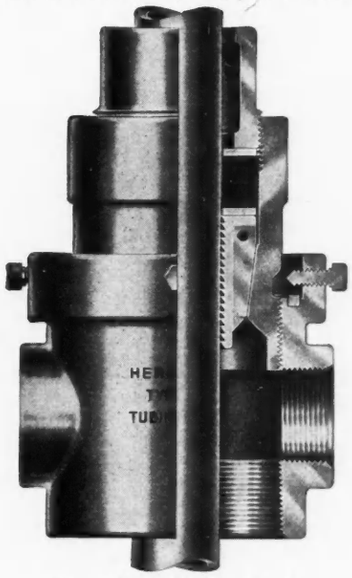
Hercules Type C-3 Tubing Head

hanger. Tubing is supported on slips which completely encircle the tubing, eliminating any possible danger of crushing.

This tubing head is simple and compact in design, and its great strength assures absolute safety. Tools and other devices can be run into the well simply by removing the packing bowl (top section) by unscrewing it.

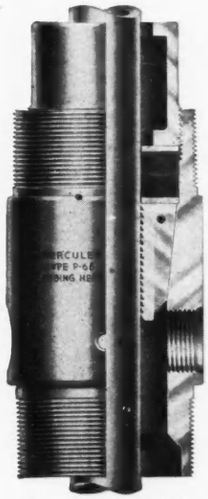
▪ *Type D-X Tubing Head*

Hercules Type D-X tubing head exhibited is a combination casing head and tubing support. If necessary to use clean-out tools in the well, simply unscrew the



Type D-X Tubing Head

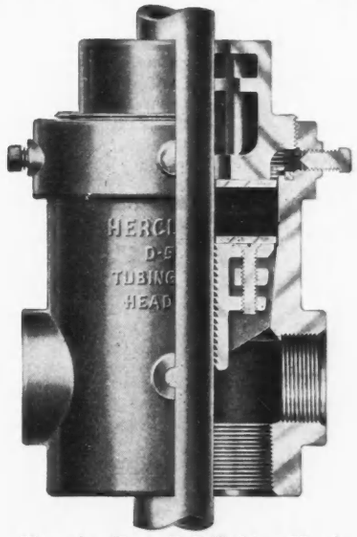
packing bowl, which leaves a regular Berry pattern casing head with oil saver top on the well. When tubing is run back into the well, replace the packing bowl. Slips are provided on which the tubing is supported. The overhead-packing arrangement permits repacking without disturbing the well connections. This head is made of cast steel and is designed for medium-pressure wells.



Hercules Type P-66 Tubing Hanger

▪ *Type D-5 Tubing Head*

The Hercules Type D-5 tubing head at the booth is a one-piece full opening head with an oil saver top to accommodate tubing spiders or wire line oil savers.

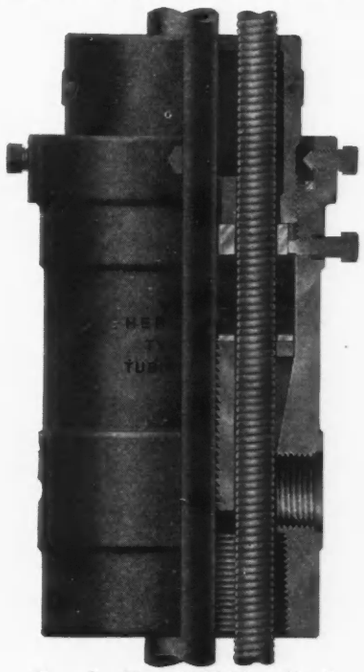


Hercules Type D-5 Tubing Head

Special hinged slips are utilized to support the tubing. This head is made of electric cast steel and is tested for 3000 pounds pressure.

▪ *Hercules Type P-66 Tubing Hanger*

The Hercules Type P-66 tubing hanger is very similar to Type C-3 tubing head, except that Type P-66 is longer, has two 3-inch side-outlets, and is made with either male or female thread to screw onto the casing. It is very compact and screws di-



Hercules Type R Tubing Head

rectly onto casing. This tubing head is also "overhead-packed" and utilizes slips to support tubing. It is ideal for high-pressure wells, being made of forged steel and tested for 5000 pounds pressure.

▪ *Hercules Type R Tubing Head*

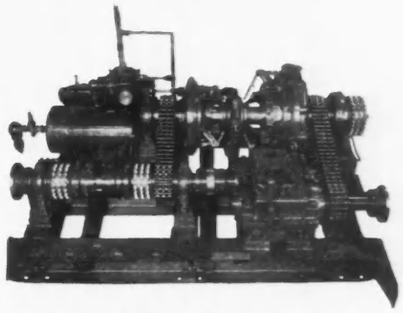
Type R tubing head is "overhead-packed" and is especially designed to be used with an electrically driven bottom-hole pump. It is so constructed that the electric cable leading to the pump can pass down through the slips and packing rings.

It can also be used on wells where it is desired to run a string of one-inch pipe alongside the tubing. This head has a regular Berry pattern casing head top for oil saver, spiders, etc. It is constructed to hold a pressure of 1500 pounds.

Sheldon Machinery Corporation

▪ *Transmissions*

Sheldon Machinery Corporation, New York, is exhibiting its "R" type heavy size Diesel transmission which is used for rotary drilling. The "R" type is designed for adapting the largest size Diesel engines now used and for drilling to maximum depths.



Sheldon Machinery Corp. "MR" Type

Sheldon Machinery Corporation also manufactures the "MR" type medium size transmission. An improvement has been made in both the "R" and "MR" types in the air control arrangement, which control is used for engaging and disengaging the forward and reverse clutches. The new arrangement is composed of two cylinders instead of one cylinder as formerly, and the control valve is now mounted near the driller's position instead of on the transmission. This new two-cylinder arrangement eliminates the use of numerous levers.

The Sheldon Machinery Corporation also exhibits stuffing boxes which are used in drilling with flush joint drill pipe.

Elastic Stop Nut Corporation

▪ *Nuts*

Elastic Stop Nut Corporation, Elizabeth, N. J., has an exhibit consisting of various types of Elastic stop nuts, which are used in the oil fields on drilling and pumping equipment. Included in this display will be a complete line of slush pump piston rod nuts to fit the various types of pistons found in the field.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Hercules Tool Company

▪ *Casing Head With Slips*

Hercules Tool Company, Tulsa, is exhibiting a line of casing heads, tubing heads, tubing hangers, casing heads with mandrels, pumping and flowing tees.

Casing Head with Slips

The Hercules "Overhead-Packed" Type B forged steel casing head with slips has packing above the slips and does not carry the weight of the casing. Special split steel and rubber packing rings are compressed down on top of the slips or shoulder within the casing head body by means of a split steel packing nut which screws down into the top of the casing head and forms a seal-tight pack. The head is machined inside and out. Working pressures, 2500 to 3000 pounds; test pressure, 5000 to 7000 pounds.

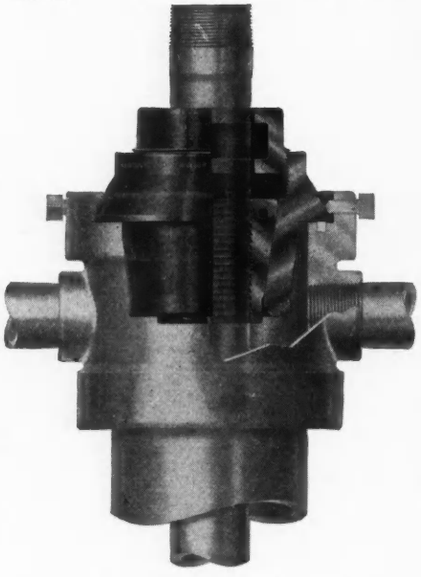
▪ *Casing Head With Mandrel*

Casing Head with Mandrel

The "Overhead-Packed" Type B forged steel casing head with mandrel is of the same design as Type B with slips, and all parts are interchangeable in both heads. Type B with mandrel is available to operators who prefer to hang casing on a mandrel instead of slips. The mandrel is equipped with either a rubber packing insert or three hydraulic packing inserts and gives in reality a double-pack casing head. The heads are available in all sizes. They are adaptable to various methods used for connecting up a well.

▪ *Hercules Tubing Hanger*

The Hercules tubing hanger exhibited utilizes the overhead-packing arrangement to make a seal-tight pack above the slips. This permits repacking and adjustment of pressure on the packing without lifting tubing or breaking the well connections. Three slips hold tubing securely without pinching. The Hercules tubing hanger fits any standard Berry pattern casing head, according to the manufacturer.



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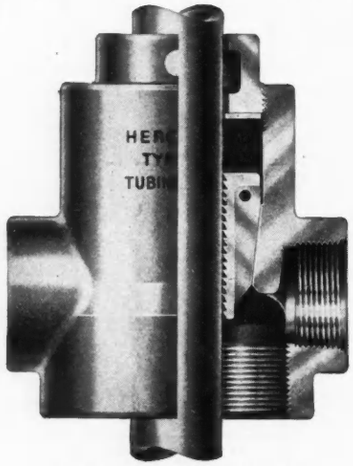

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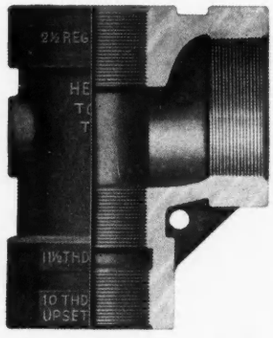

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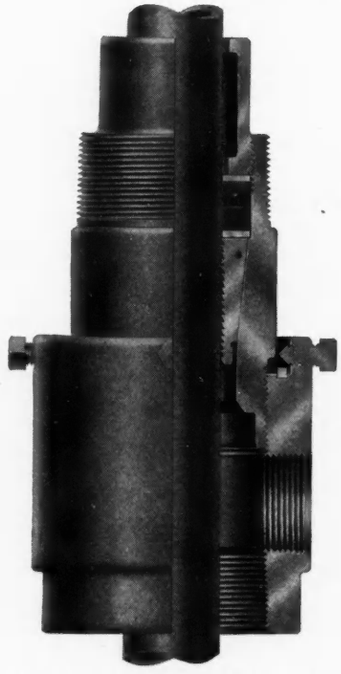

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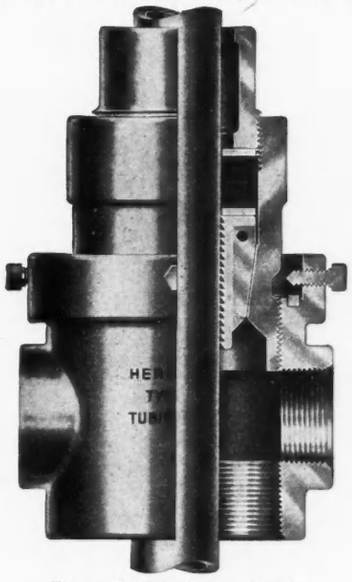

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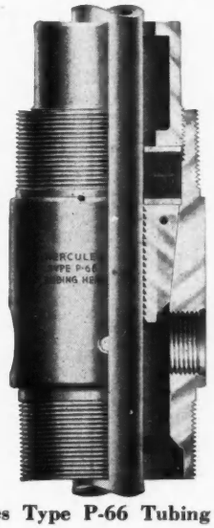

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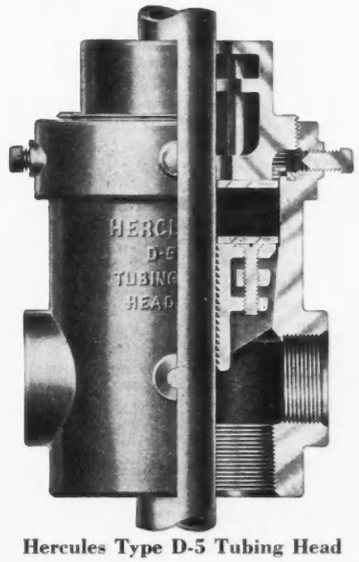

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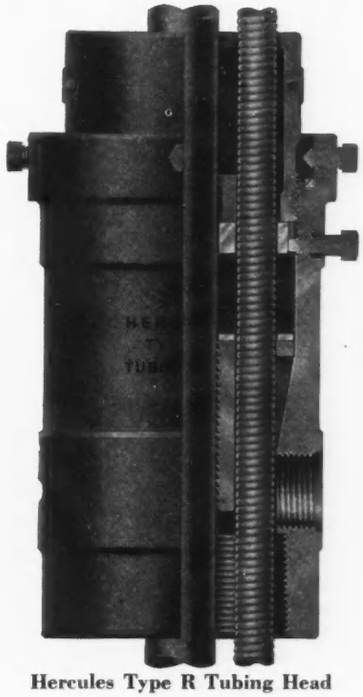

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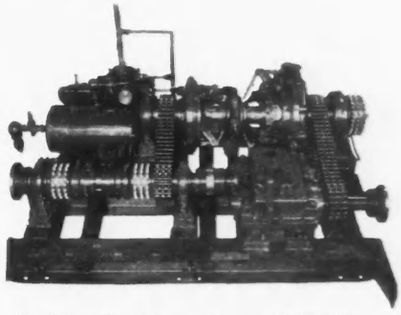

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FIELD EQUIPMENT Featured at International Petroleum Exposition

Walter O'Bannon Company

▪ ***Pumping Equipment***

Walter O'Bannon Company, Tulsa, is displaying a full line of pumps and pumping equipment. The company manufactures several types of rod or insert pumps. The "Baby Red" pump is for small wells. The standard pump, in which "Regular," "Milelift," "Cup," or "Discpak" plungers are optional equipment, are adapted for use in the average run of wells. O'Bannon "oversize" pumps are designed for wells which make lots of fluid; metal to metal pumps (insert pumps with metal plungers) are exhibited for severe pumping conditions.

O'Bannon Overshot Sucker Rod Socket

O'Bannon Arrow Pump

This company is displaying many pumping specialties such as balls and seats, drops and seats, turn-proof hold-down, and valve cups. Among the pumping accessories this company is showing are safety sucker rod and tubing hooks, safety sucker rod elevators, hinged bell nipples, polished rod clamps, and a complete line of sucker rod sockets.

This year, for the first time, this concern exhibits an improved O'Bannon tubing spider. One of the improvements is a reduction in height of four inches.

▪ ***Arrow Pump***

Another new O'Bannon product, displayed for the first time, is the O'Bannon "Arrow" pump, which is a cold drawn rod type pump with alloy iron plunger and corrosion resistant balls and seats. "Cro-lay" traveling tube is optional equipment.

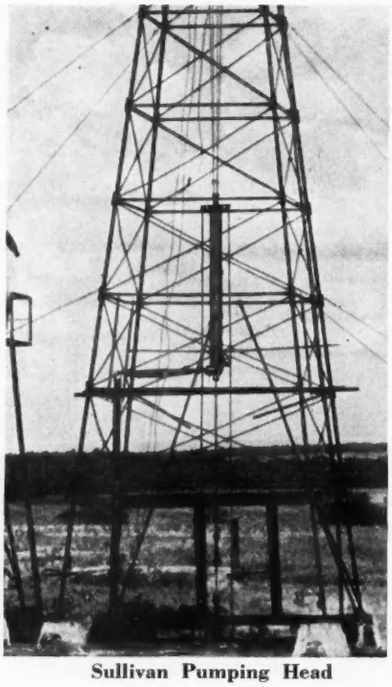
This year the company is displaying for the first time the O'Bannon overshot sucked rod sockets, designed to fish hardened couplings with outside diameter of 1⅝ inches in 2-inch tubing, and hardened couplings with outside diameter of 2 inches in 2½-inch tubing.

Another feature of the Walter O'Bannon exhibit is a working model of a traveling tube type rod pump in glass tubing, which enables one to see just what takes place in the bottom of a pumping well.

Sullivan Machinery Company

▪ ***Seismograph Drill***

Sullivan Machinery Company, Chicago, exhibits a No. 37 seismograph drill which can be supplied mounted on a short wheel base truck or can be supplied as a unit for mounting in the field. It has capacity for drilling shot holes either 4½ or 5 inches diameter to a depth of 850 feet, and can take two-inch cores to a depth of 1200 feet. No. 37 can be supplied with separate power unit to drive the drill, or with power take-off drive to both drill and pump. The mast is a folding type, made of welded airplane tubing with hydraulic cylinders for raising. Distinctive features claimed for this unit are the ability to use hydraulic feed or a kelly feeding off the line.



Sullivan Pumping Head

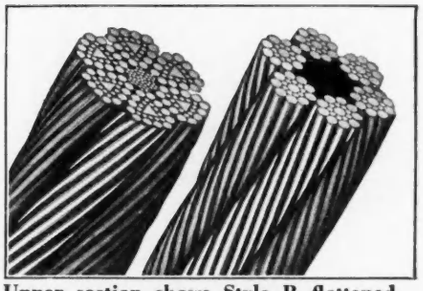
▪ ***Sullivan Pumping Heads***

Sullivan Machinery Company also is showing three sizes of its pumping head. This unit consists of a single-acting, pneumatic cylinder with automatic air-actuated poppet valves. The length of stroke is controlled by a series of reverse ports on the outside of the cylinder, and changes can be made in a few minutes. Speeds of up and down strokes are independent, and are regulated by hand-operated throttle valves. Positive lubrication is obtained by a forced feed lubricator located at the side of the lower cylinder head.

The head operates as a giant shock absorber, affording complete shock protection, with positive limit on maximum rod stress, but providing adequate lifting power regardless of speed. Its complete flexibility of length of stroke and strokes per minute, makes it readily adaptable to all pumping conditions, it is claimed, and the straight line pull makes long strokes practical for controlling the elasticity of long strings of rods. The closed circulating system, with back pressure on the exhaust side, tends to make counter-balancing automatic and reduces the duty of the compressor. Well "weights" are obtained with a test gauge attached, when needed, to the side of the lower cylinder head.

A. Leschen & Sons Rope Company

▪ ***Wire Rope***



Upper section shows Style B flattened strand construction at the left and round strand hemp center construction at the right

A. Leschen & Sons Rope Company, St. Louis, Missouri, has on display a line of wire rope featuring Hercules Red Strand rotary drilling lines.

Style B on display is a flattened strand wire rope with a wire rope center. Another style shown is constructed with a round strand hemp center.

While Leschen & Sons Rope Company shows a complete line of samples various constructions and grades of wire rope of its manufacture for oil field use, it features, along with the "Hercules" rope, another drilling line known as the "California Special" cable tool drilling line.

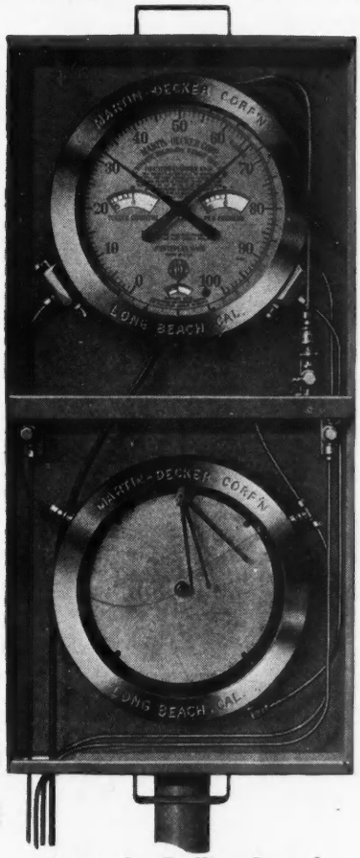
FIELD EQUIPMENT Featured at International Petroleum Exposition

Martin-Decker Corporation

Martin-Decker Corporation, Long Beach, California, is exhibiting a complete line of weight recording, measurement and control instruments.

▪ *Drilling Control Instrument*

The Martin-Decker "Quintuplex Drilling Control" is a full range instrument that covers every phase of the drilling operation, on the shallowest or the deepest wells, with accuracy and sensitivity. Weight on bottom, load on derrick, slush pump pressure, torque in the drill pipe and rotary table speeds are all shown on one 12-inch dial. Five individual units are installed in one case: weight indicator, super-sensitive



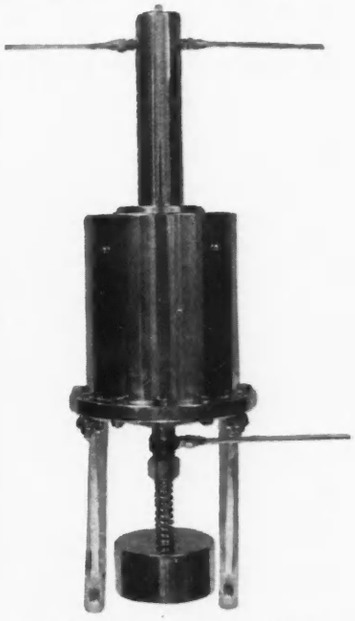
Quintuplex Drilling Control

weight indicator, torque gauge, slush pump gauge, and rotary table tachometer. All elements are standard, one in no way interfering with or depending on the functioning of the other, any of them quickly and easily removed and replaced without affecting the operation of any of the others, and each one providing the driller with necessary information for complete drilling control.

A single recording gauge records weight, torque and mud pump pressures on one extra large chart, thus eliminating the installation and maintenance of several recording gauges. The "Quintuplex" gauge and combination recorder cases are mounted in a heavy steel box, ready for installation.

▪ *Pressure Booster*

A hydraulic pressure booster, designed especially for testing gauges, castings, connections and pressure vessels in the shop or laboratory, has been developed recently and is exhibited by the Martin-Decker corporation. It requires no special pumps or motors to build up pressures, but is designed to operate from the regular source of water or air supply for the plant.



Martin-Decker Pressure Booster

The booster consists of two cylinders, one a low pressure cylinder, into which is connected a line from the plant water or air supply system, and the other a high-pressure cylinder with a lead out to the gauges or lines to be tested.

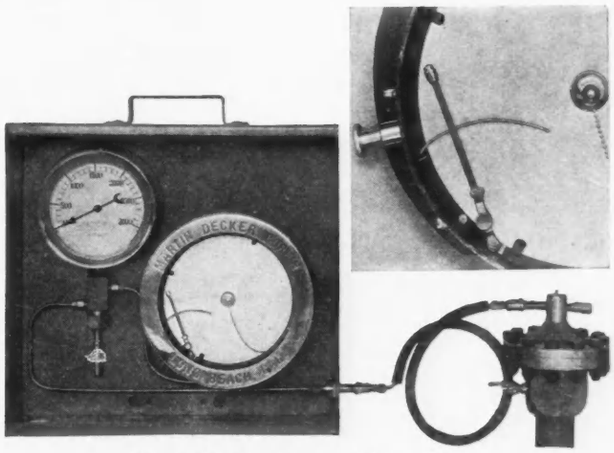
The booster is mounted on the test bench, or in the most convenient place, with the necessary connections and valves to operate it. By simply manipulating a valve from the plant pressure supply line, pressures can be built up to 5000 pounds at a very slow, steady rate or as rapidly as desired. It is especially useful in testing gauges and manifolds where small volumes and high pressures are required. The device is manufactured to provide various capacities and various pressures as required.

▪ *Measuring Line Weight Indicator*

A device used in running; bottom hole pressure gauges, temperature bombs, cement plugs, and some types of survey instruments is displayed by Martin-Decker. It is a closed, vacuum loaded unit, hermetically sealed. It operates on the displacement principle, with the line being carried over two and under one steel wheel. The increasing weight on the line compresses the fluid displacing unit inside the body of the device, forcing fluid into the gauge. Any retarding of the movement of the object being run in the hole is immediately apparent on the gauge, and when the device in the hole comes to rest on the bottom this fact is registered immediately. This weight indicator is designed so that it can be placed on a trailer and hauled around the fields.

▪ *Recording Cement Pump Gauge*

The Martin-Decker cement pump gauge was designed to provide the operator with accurate circulating pressure information during the cementing job. The diaphragm unit is mounted on the pump manifold and connected to the special gauge and recorder, both fitted in a steel case The case is mounted on the back of the cab of the cement truck or set on a tripod or post beside the truck during the cement job. Special charts are furnished with the recorder, which makes a complete revolution in four hours, thus providing a legible record for the longest and shortest cement jobs, providing written record of the pressures developed by the pumps during the entire operation, showing the time the plug hits bottom and all other pressure information.



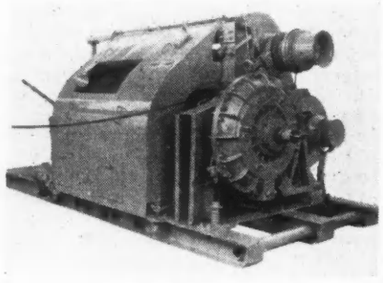
Martin-Decker Cement Pump Gauge

FIELD EQUIPMENT Featured at International Petroleum Exposition

Beaumont Iron Works Company

Beaumont Iron Works Company, Beaumont, Texas, is showing its line of Dreadnaught heavy-duty rotary drilling and pumping equipment, as well as several new developments in high pressure type casing and tubing heads. This exhibit will be located in the Frick-Reid Supply Corporation building on the grounds of the exposition.

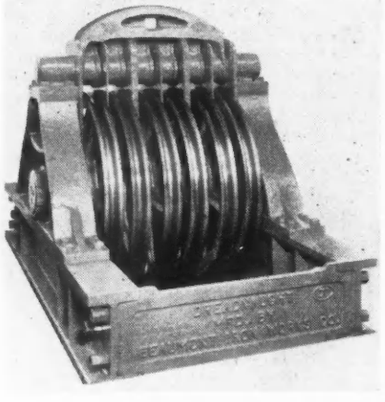
▪ *No. 11 Drawworks*



No. 11 Drawworks

This is a heavy-duty, 3-shaft, 4-speed, unitary type draw works, having a new slow clutch assembly that represents a departure from the conventional slow clutch in that it eliminates all deep keyways on the drum shaft, thus, it is said, preventing torsional strain and increasing the strength of the shaft. All shafts are 7½-inch diameter. Spooling drum is 28 inches in diameter by 36 inches long, and is grooved if desired. Water cooled brake rims are 46 inches in diameter. All clutches on jack shaft are 2-jaw, 2-step type to facilitate engaging. Rated maximum safe drilling depth is 10,000 feet.

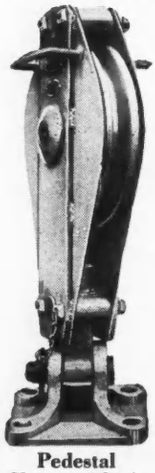
▪ *"KY" Crown Block*



"KY" Crown Block

The type "KY" straight line drilling crown block is of the patented A-frame design. Its six, 42-inch diameter sheaves are of manganese-molybdenum steel. Wire line grooves are machined. This block has a rated capacity of 360 tons with a safety factor of two to one, based on yield point of structurals. The solid roller type bearings used are rated at 120,000 pounds capacity at 100 revolutions per minute. Center pin is 7.872-inch diameter forged steel.

▪ *Pedestal Sheave Block*

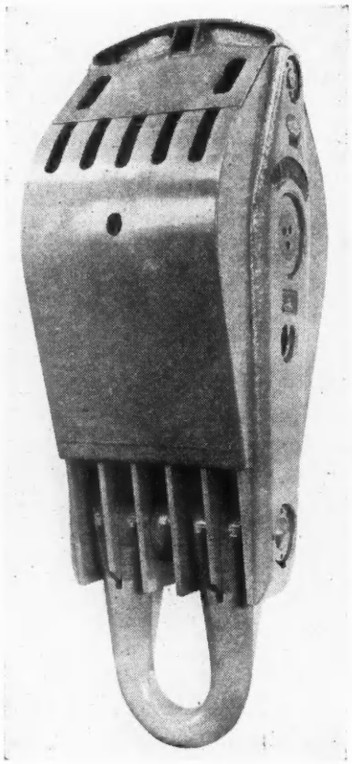


Pedestal Sheave Block

The Dreadnaught pedestal sheave block is a floor block, or sheave, used in conjunction with tractor or hoisting winch for pulling rods, tubing, swabbing, etc. It tilts and rotates, automatically adjusting itself to the correct angle of pull, thus minimizing wear on the wire line. The sheave is 16 inches in diameter, machined manganese steel. Timken tapered roller bearing equipped. It has a 48,000 pounds tested working capacity. Block is easily disengaged from base, which is anchored to concrete foundations.

▪ *"PY" Traveling Block*

The type "PY" drilling traveling block is of stream lined design and has a rated capacity of 300 tons with a safety factor of two to one based on yield point of structurals. It is equipped with five, 42-inch diameter cast manganese-molybdenum steel sheaves. Wire line grooves are machined. The forged steel center pin is 7.872 inches in diameter. Its bearings are the solid roller type, rated at 120,000 pounds capacity at 100 revolutions per minute.



"PY" Traveling Block

▪ *"HX-10" Tubing Head*

"HX-10" Tubing Head

This is a 6000-pound test pressure tubing head designed to be used in conjunction with blowout preventers in running tubing, setting packer, and reworking the well under high pressure. It is a tapered hanger type head, provided with a J-tool device to facilitate setting packer. This head provides a means of sealing-in the well before blowout preventers are removed, permitting the removal, also, of the master gate valve. The Christmas tree is made up on the bonnet, rather than on the tubing.

▪ *"HY" Casing Head*

"HY" Casing Head

The type "HY" is a 5000-pound test pressure casing head designed for use in high-pressure areas where heavy drilling fluid is used to keep the pressure under control, thus eliminating, it is claimed, the need of a blowout preventer in landing casing. However, it may also be used with

SEISMIC REFLECTION WORK DONE IN 1935, TEXAS-LOUISIANA GULF COAST.
RESULTING FIELDS FOUND AND PROVED BY DRILLING, DURING 1935
WORKED AND RECOMMENDED BY INDEPENDENT EXPLORATION COMPANY
66.6 %
12.5 %
1 X CO.

INDEPENDENT EXPLORATION COMPANY

POINTING THE WAY
IXC
FOR THE DRILL

ESPERSON BLDG. HOUSTON, TEXAS

blowout preventer for drilling in and landing casing. The type "HY" casing head suspends the casing by means of a tapered hanger which packs off in the tapered bowl of the body, the hanger being provided with three rings of hydraulic packing. In event fire destroys the hydraulic packing, an effective metal to metal seal is formed between the machined surfaces of the hanger and interior of the body. An auxiliary stuffing box immediately above the hanger, provided with four rings of asbestos packing and a split gland, adds to the safety of this head.

▪ *"HZ" Casing Head*

This is a full-open hole type, 6000-pound test pressure casing head, designed to be used in conjunction with blowout preventers for drilling in and landing casing against high pressure. Inner casing string is suspended by means of a tapered hanger which packs off in the tapered bowl of the casing head body, the inner

"HZ" Casing Head

string screwing into the female hanger threads. Where it is desirable to run two or more inner strings, an adapter head screws on top of the hanger, and hole is drilled and inner string is run through the adapter head just as these operations are accomplished through the casing head.

▪ *"East Texas Special" Casing Head*

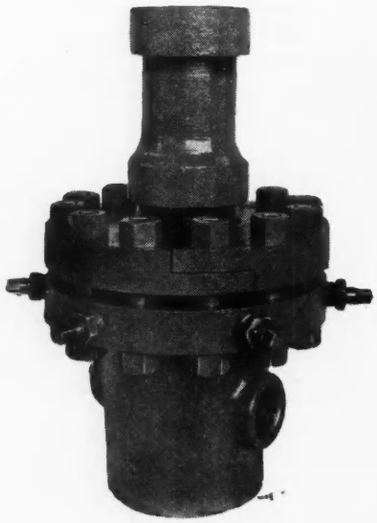
The "East Texas Special," which is a light Louisiana pattern casing head, is made of cast steel and tested to 2000 pounds pressure. It supports the inner casing string by means of the casing coupling resting on the packing gland. The body is threaded male, female, or both for casing connection.

▪ *"PX-23" Tubing Head*

Type "PX-23" is a slip-suspension tubing head, having a test pressure of 1500 pounds. The cast steel body forms a bowl for the 6-inch screw type slips. A cast steel bonnet screws down on top of the body. A stuffing box, consisting of split junk ring, four rings of 5/8-inch square packing, packing gland and cap screw, is provided on top of the bonnet. Two gas outlets are threaded for A.P.I. line pipe. The body is threaded female at the bottom for casing connection.

▪ *"HX-30" Tubing Head*

The type "HX-30" tubing head is a 3000-pound test pressure head designed to facilitate running tubing, setting packer, and reworking the well under pressure, eliminating the necessity of killing the



"HX-30" Tubing Head

well to accomplish these operations. Like the Dreadnaught type "HX-10" tubing head, the type "HX-30" is a tapered hanger type head which also permits sealing in the well before blowout preventers are removed, making it unnecessary to leave the master gate valve on the well.

▪ *"HX-1" Tubing Head*

This is a 4000-pound test pressure tubing head which supports the tubing string by means of a tapered hanger which packs off in the tapered bowl of the body. The hanger is provided with two rings of square hydraulic packing; the weight of the tubing, which screws into the female threads at the lower end of the hanger, compresses the packing and forms an effective seal. The hanger is threaded female at the top for a nipple to the Christmas tree. A slotted ring bolts down on top of the hanger. Gas outlets are threaded for A.P.I. line pipe. Bottom of the body is threaded female for casing connection.

▪ *"PX-75" Tubing Head*

This is a slip type, 5000-pound test pressure tubing head. A metal seal ring is made integral with the bonnet flange and seals off in a V-groove on top of the body flange. The tubing string packs off above the slips. A cap nut screw down on top of the bonnet, compressing five rings of square asbestos packing to effect a seal.

▪ *Swivel Ell*

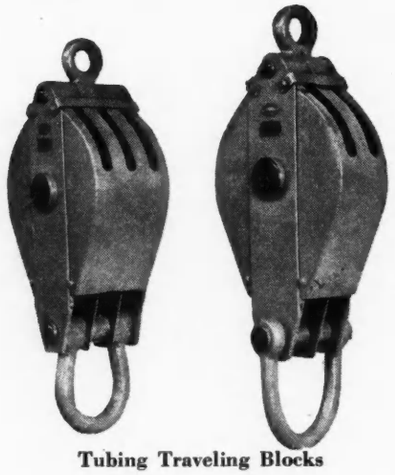
The Dreadnaught swivel ell bolts on to the fluid end of the pump to provide a flexible connection which will remain tight. The swivel ell was designed to replace the regular suction ell, flange and nipple, which, after constant raising and lowering of suction line, wear loose, reducing pump efficiency. A regular stuffing box is provided to keep the flexible joint

Swivel Ell

leak-proof. The swivel ell is also available with a back outlet, which facilitates compounding of pumps.

▪ *Tubing Traveling Blocks*

Dreadnaught Timken bearing equipped tubing traveling blocks will be shown in



Tubing Traveling Blocks

several sizes. Sheaves are made of nickel chrome steel with high manganese content. Wire line grooves are machined to A.P.I. specifications. Center pin is drilled for Alemite lubrication.

Union Wire Rope Corporation

▪ *Wire Rope*

Union Wire Rope Corporation, Tulsa, is displaying with Jarecki Manufacturing Company, its sole distributor, the various types of wire rope it makes. The booths of the two companies adjoin. Union wire rope is made for all oil field services to which such products are adaptable.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Hydril Company

▪ *Internal Flush Drill Pipe Joint*

Hydril Company, Los Angeles and Houston, in the exhibit of Murray Tool & Supply Company, distributors, is showing the Hydril internal flush drill pipe joint. The diameter of the hole through the tool joint is the same as the full inside diameter of the drill pipe itself in all sizes. The patented double-step thread is cut directly into the upset at both ends of each length of drill pipe, and the lengths are joined by one-piece double pin tool joints. All threads in the drill string are thus identical and the position of the lengths of pipe may be changed at will in order to provide new working threads and distribute wear evenly. A beveled shoulder at the base of the pin and a tapered seat at the inside of the box make the joint tight and lock it against accidental unscrewing. All threads terminate in a beveled shoulder and are non-creeping.

Internal Flush Drill Pipe Joint

▪ *External Flush Drill Pipe Joint*

This drill pipe joint is designed for use in controlled pressure drilling work. A string equipped with the external flush joint may be run in and pulled out of the hole through set packers without at any time releasing the seal about the pipe, the manufacturers claim. This type of joint offers an additional advantage in drilling in a hole of diminished clearance in that a larger size of pipe can be used due to absence of projections beyond the diameter of the pipe. The thread is the same as described above and the joint is fluid and gas tight and non-creeping.

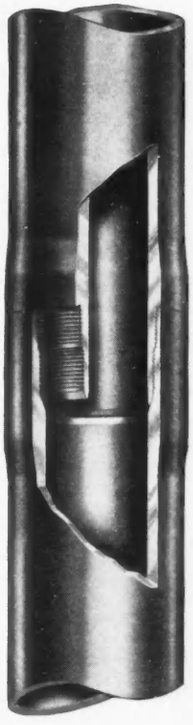
External Flush Drill Pipe Joint

▪ *Flapper Type Float and Back-pressure Valve*

This Hydril valve on display is used both as a drill pipe float in long drilling strings and as a back pressure valve to close the drill stem against upward movement of fluid and gas during controlled pressure drilling work. This type of valve provides a full opening of the fluid passage as the flapper recedes into a recess in the body when circulation starts, but closes again instantly under pressure from below. The valve seat, to which the bronze flapper is attached, fits in the bore of the body and is held in place and packed off by the tool joint pin that connects the body to the drill string. The valve seat may be removed by hand when replacement is necessary. Due to the unrestricted fluid passage the cutting action of the fluid on the valve parts is reduced to a minimum. The valve and body are made in all sizes for use with all Hydril and A. P. I. full hole and standard drill pipe joints.

Flapped Type Float and Back-pressure Valve

▪ *External Upset Casing Joint*

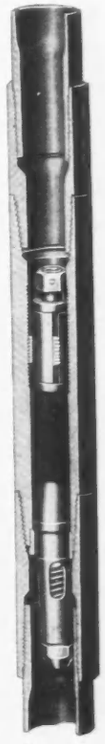


External Upset Casing Joint

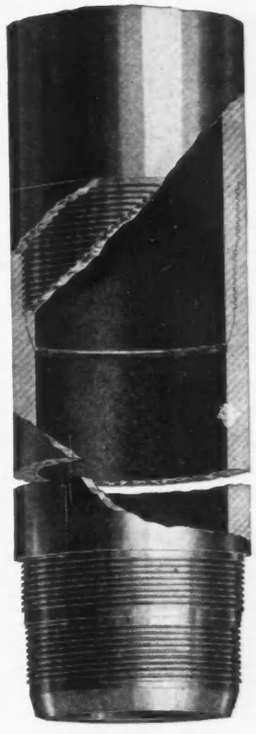
The Hydril double-step square casing thread is also applied to a special external upset casing. The greater thickness of metal provided by the upset makes it possible to construct a joint of any desired efficiency, the degree of strength being governed by varying the thickness of the upset. No couplings are required as the threads, both male and female, are cut directly into the upset. A tapered seat at the inside of the box and a beveled shoulder at the base of the pin thread seal the joint against fluid or gas leakage. Casing equipped with this joint is recommended for use as drill stem in drilling through heaving shale due to the high torque resistance of the joint.

▪ *Drop-In Type Back-Pressure Valve*

This back-pressure valve shown by Hydril is pumped down the drill pipe at the first indication of rising gas pressure in order to seal the inside of the drill string against upward flow. It seats in a special sub carried in the string for the purpose. The jaws engage the annular grooves in the sub and hold the valve securely against upward movement while the pressure from below expands the rubber packer against the wallls of the sub. The ball closes the passage through the valve body. This valve is made for use with all sizes and types of drill pipe and casing.



Drop-In Type Back-Pressure Valve



Internal and External Flush Casing Joint

▪ *Internal and External Flush Casing Joint*

The patented Hydril casing thread is cut into the pipe itself. No couplings are required as each length of casing is provided with a male thread on one end and a female thread on the other. External flush casing equipped with this joint is also available with female threads cut in both ends of each length of pipe. With this type a double-pin, heat-treated coupling is used. The thread is constructed on the double step principle, with a square form. The casing joint is made fluid and gas tight by two tapered seats, similar to those used in the drill pipe joints.

FIELD EQUIPMENT Featured at International Petroleum Exposition

▪ *Retrievable Casing Plug*

This Hydril casing plug confines the pressure in the hole and enables the operator to make repairs and replacements to the valves or fittings on the well casing at the surface. It also permits downward circulation into the formation without subjecting damaged casing or fittings above the plug to any pressure. The plug is run on the drill pipe and set in position by rotation of the pipe. The pipe may be removed from the plug by continued rotation. The packer is later retrieved with the drill pipe, opposite rotation freeing the slips.

Retrievable Casing Plug

Non - Retrievable Casing Plug

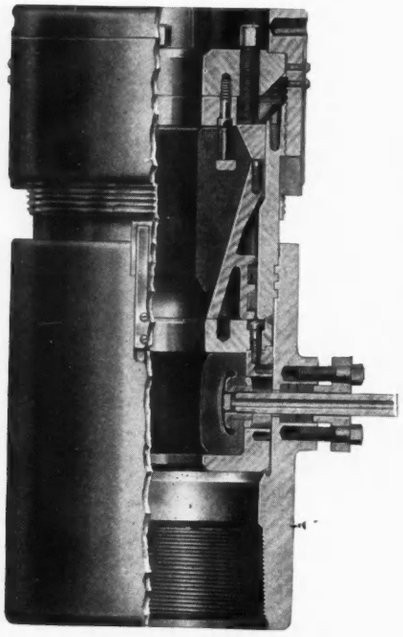
▪ *Non-Retrievable Casing Plug*

When set at the bottom of a string of casing above the open hole, the Hydril casing packer plug serves to pack off this casing against well pressure, thus enabling a smaller string of casing to be run into the well by its own weight without the necessity of using "pulling in" equipment. This is a particularly valuable item of pressure drilling equipment inasmuch as it permits the running of a perforated liner.

The casing plug body contains a back pressure valve that is opened by the string of casing being run, thus allowing mud to be circulated in the hole below the plug. The plug is then pushed ahead of the new casing, acting as a shoe, and is drilled up after the casing has been set and cemented.

▪ *Combination Drilling Packer*

This Hydril packer is made for use with drill pipe equipped with external flush joints in controlled pressure drilling work. The seal around the drill pipe is effected automatically by the pressure in the well and is maintained as long as the well pressure is exerted against the operating piston, the seal becoming tighter as pressure increases, it is said. A hydraulically operated auxiliary packing bag below the drilling packer is used to maintain the seal if the main packing rubber has to be changed while the tools are in the hole. The combination drilling packer also operates as an automatic blowout preventer.



Combination Drilling Packer

Whitlock Cordage Company

▪ *Ropes and Cables*

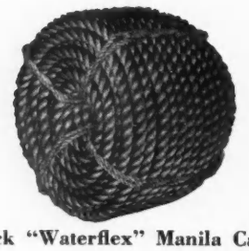
Whitlock Cordage Company, New York, New York, exhibits in the Frick-Reid building at the exposition a complete line of bull ropes, cat lines, Manila drilling cables and cordage.

Drilling cables shown are said to contain 100 percent selected Manila fibre. They are scientifically lubricated to increase life.

Whitlock plain type bull ropes, also manufactured from pure Manila fibre, are made up with the old fashioned, or ordinary type of cordage lubrication. They require occasional wetting to take up slack and prevent slippage on the wheel.

The "Waterflex" type of bull rope exhibited at the booth is made with a patented type of lubrication which is said to gradually eliminate swelling and shrinkage.

Cat lines displayed by Whitlock at the show are treated with the "Waterflex" process to make them impervious to the elements. The cat lines are shown in three and four strand styles.



Whitlock "Waterflex" Manila Cat Line

Waukesha Motor Company

▪ *Internal Combustion Engines*

Waukesha Motor Company, Waukesha, Wisconsin, is displaying eight units of heavy duty, internal combustion engines for various oil field uses.

One of the engines featured is the Model WOKU, a four cylinder unit with four to one herringbone engine reduction gear for rotary drilling application. It may be equipped to operate on gas or gasoline.

A second unit featured is Waukesha's Model 6-LROU drilling engine for rotary drilling. It operates on either gasoline or natural gas and is a six cylinder job.

Another engine featured at the Waukesha booth is what the manufacturer refers to as the Waukesha-Hesselman Model 6-EKHU. This is a compact power unit with an outboard bearing for stationary application.

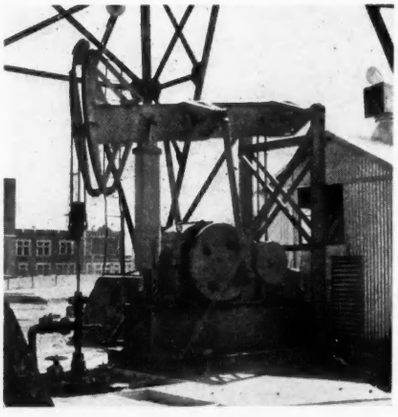
Lacy Oil Tool Company

▪ *Portable Pumping Unit*

Lacy Oil Tool Company, Los Angeles, is exhibiting one of the models of their Lacy "Bull Dog" air balanced portable pumping units, in which the method of attacking the counter-balance problem of polish rod loads on pumping wells has been handled in rather a unique way.

By use of compressed air, a constant pushing or lifting force is exerted against the beam to counter-balance any given load in the well. A compressor is located directly back of the reduction gears and operates synchronously with the beam. This compressor is adjustable and will maintain any given poundage that is desired, the manufacturer claims. The unit may be installed completely within floor space of a 24-foot derrick floor.

Lacy Oil Tool Company states the flexibility of this unit is high and that it is possible to increase and decrease the speed of operation without changing the counterbalance. However, should a change in counter-balance be necessary, at any time, one man can effect the change while the unit is in operation. One man can respace the polish rod or throw the unit back from the well for servicing.



Lacy Portable Pumping Unit

FIELD EQUIPMENT Featured at International Petroleum Exposition

National Tank Company

▪ ***Tanks***

National Tank Company of Tulsa, is displaying various new types of National oil and gas separators together with the new improved National bolted tanks. A new feature of the exhibit is a full size National crude oil emulsion treater in operation. This display will include complete facilities for crude treating, including with the treater, a battery of National welded oil field stock tanks.

A miniature National gas tight wood tank is displayed showing the features of construction with water distribution system in operation.

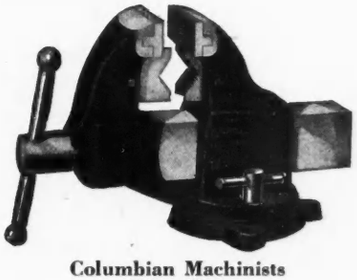
National Titeline couplings for grooved end pipe are displayed showing their applications for various uses.

National separators are displayed in various sizes and types and in working pressures up to 3000 pounds per square inch. A transparent model National separator is in operation showing the principles employed in separation of oil and gas. All types of valves and other equipment as used in conjunction with separator and tank operation are on display. Motion pictures showing the construction of some National products are shown.

The Columbian Vise & Manufacturing Company

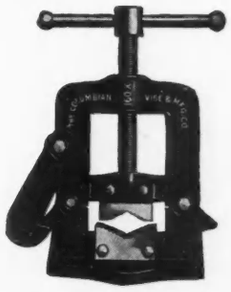
▪ ***Vises***

The Columbian Vise & Manufacturing Company, Cleveland, Ohio, is exhibiting its line of combination machinists pipe vises and hinged pipe vises. The machin-



Columbian Machinists Pipe Vise

ists vises have castings of malleable iron which will not chip, crack or break. The jaw faces are of tool steel and accurately machined and heat treated, are dowelled into the jaw, replaceable when worn or damaged. The gripping faces are knurled to insure holding. The screws are made of best grade of screw stock, oversize, and carefully threaded. The main nuts are malleable iron, extra heavy. The cold-rolled steel handle and ball ends are one, being forged from the same stock. A hardened-steel bearing washer is used under the screw head to prevent wear and eliminate end play. The swivel base models have a positive locking device that holds in any position without a slip. A steel clamping nut operates the forged-steel lock bolt equipped with teeth which



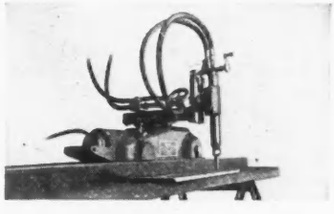
Columbian Hinged Pipe Vise

mesh into the gear-like corrugations in the malleable-iron bench plate. The bases of all models are perfectly flat, which permits easy installation and eliminates cutting into the bench.

The Linde Air Products Company

The Linde Air Products Company, New York, is exhibiting a recently announced new addition to its line of oxyacetylene cutting machines, The Oxweld Monitor or C.M.-8 Cutting Machine. Every effort, it is said, has been made to make the Monitor a perfect example of machine design. It is of rugged construction, streamlined to aid operation and maintenance. It is portable and is adjustable through the entire range of oxy-acetylene cutting. All working elements are enclosed in a double cover. The Monitor does automatic straight-line cutting of practically unlimited length, straight bevel cutting, two bevels at a time, if desired, plate edge preparation, circle or ring cutting of diameters up to 100 inches, and the cutting of curved or irregular shapes.

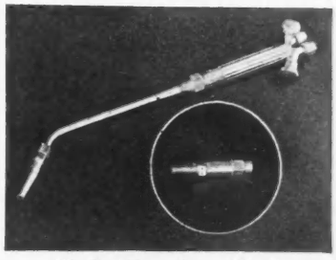
One blow pipe, Oxweld C-7, is supplied as standard equipment, thus permitting cuts up to 12 inches. Blow pipe C-22 may be substituted for heavier cutting and certain flame machining operations. Provision is made for the use of both blow pipes simultaneously. These can be mounted either on the same or opposite sides of the Machine, and adjusted independently. The slide for the blow pipe holders is constructed so that it may be swung instantly into any horizontal position over a working arc of 250 degrees. Protractor scales gauge the tilting of the blow pipe in either direction parallel to the side of the machine through 90 degrees, and up to 90 degrees at right angles from the side. Special care has been given to speed control and the sensitive indicators are said to eliminate all guess work.



Linde Oxweld Cutting Machine

▪ ***Blow Pipe Head***

The new Multi-Flame Lindewelding Head, for use on W-17 and W-22 Oxweld blowpipes is also being shown. The welding head consists of a special chromium-plated stem and tip, available in three sizes, their use depending upon the pipe size. Its departure from other blowpipe



Linde Blow Pipe Head

heads is in the design of the tip to give three flames; a main welding flame and two smaller auxiliary flames, the latter so positioned as to preheat both edges of the vee, ahead of the point of welding. Savings of more than 25 percent in rod and gases and 33-1/3 percent in welding time are said to be possible with the new head when employing the special manipulative technique recommended for its use.

Chaplin-Fulton Manufacturing Company

▪ ***Pressure Regulators***

Chaplin-Fulton Manufacturing Company, Pittsburgh, is exhibiting a number of pressure regulators and the "Vigilant" liquid-level regulator.

The accompanying illustration is of the Fulton Duplex Sensitive Vacuum Regulator. It has a wide variety of uses, but it was designed primarily for the purpose of preventing the collapse of storage tanks due to the tendency to pull too great a vacuum. This regulator is extremely sensitive, due to the fact that two large diaphragms are employed as a source of power and operate through a compound system of levers. It is exhibited in cut-away.

The "Vigilant" liquid-level regulator is of the remote-control type and is usually furnished with the "V-port" controlling valve. It is designed to control either inlet or outlet flow.

Chaplin-Fulton Vacuum Regulator

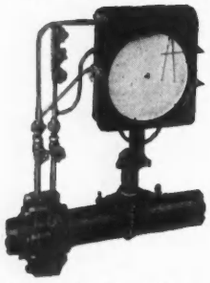
FIELD EQUIPMENT Featured at International Petroleum Exposition

Pittsburgh Equitable Meter Company

Pittsburgh Equitable Meter Company of Pittsburgh, Pennsylvania, is displaying a representative selection of meters for gas, oil, gasoline and water, as well as pressure regulators and control apparatus for use in refineries.

▪ *Emco Orifice Meter*

The Emco orifice meter has been designed to provide a meter quickly accessible for adjustment and calibration, yet rugged in construction to provide for long life with a minimum of attention.



Emco Orifice Meter

Emco design features include the use of stainless steel for all internal parts; entirely independent static and differential units; no angularity error; smooth, accurate differential movement obtained through use of an exceptionally large float; moisture-proof case and an all-welded steel manifold.

▪ *Oil Meters*

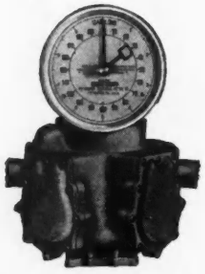
Among the complete line of oil meters displayed, the Eureka oil meter will hold particular interest for many. This meter is recommended for pipe line service where it is primarily essential to measure large volumes of rapidly flowing crude oil and where smaller volumes are seldom encountered. It is of the velocity type, commonly known as a current meter. The interior is entirely streamlined, assuring a minimum restricting effect to the flow of oil and eliminating pockets where sediment might accumulate. The measuring chamber is also self-cleaning, as the downward flow through the chamber washes the propeller and chamber free of all sand and other foreign matter. A direct reading register records in either gallons or barrels, the total volume that has passed through the meter.

Eureka Oil Meter

▪ *Bulk Gasoline Meter*

The Pittburgh piston meter for gasoline and oil measurement will be a feature display at the booth of Pittsburgh Equitable Meter Company.

This meter, which measures accurately through true positive piston displacement, gives direct readings of all movements of refined petroleum products. Installed in bulk plants, on loading racks at refineries or incoming tank car delivery lines, they eliminate the possibility of human error in gauging, recording or computing volume. At the same time a visible record is provided of all receipts and disbursements.



Pittsburgh Bulk Gasoline Meter

▪ *Emco-McGaughy Integrator*

The Pittsburgh Equitable Meter Company also is exhibiting the Emco-McGaughy Integrator. The integrator is a development in office equipment designed to facilitate the calculation of the total extension of orifice meter charts. It provides the only present known mechanical method of computing charts.

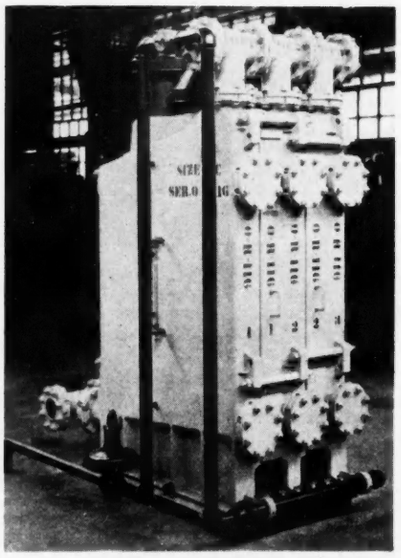
Integrator

National Radiator Corporation

▪ *Emulsion Dehydrator*

National Radiator Corporation, Cast Products division, Johnstown, Pennsylvania, is displaying the National "Oil-Rator," its product which has been designed specially for the dehydration of emulsions through the application of heat.

The National "Oil-Rator" is a sectional heating device. The sections are made of cast iron or other corrosion and heat resisting metals. The sectional nature of the product affords the operator an opportunity to readily add or remove sections to meet increased or decreased heating capacity demands.



National Oil-Rator

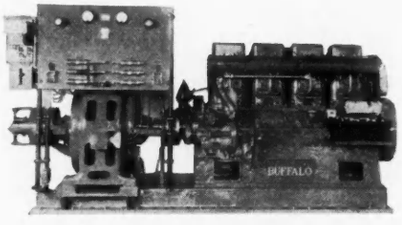
The "Oil-Rator" is equally suitable for oil or gas fired service, it is claimed. The efficiency of fuel combustion in this product ranges up to 80 percent and, therefore, very definite operating economies are effected especially in fields where the available fuel is relatively expensive, the manufacturer states.

Being completely automatic through thermostatic controls, the "Oil-Rator" eliminates almost entirely the high cost items of attention and supervision.

Ideal Electric and Manufacturing Company

▪ *Generator*

Ideal Electric and Manufacturing Company of Mansfield, Ohio, is showing one of its AC generators, directly connected to an engine. This unit is a 93.8 Kv-a 720 revolution per minute unit with a direct-connected exciter generator. A heavy cast-iron base mounts the engine, generator and controlling equipment, which includes a voltage regulator. This construction gives an engine-generator set of compact design, and one that is readily portable.



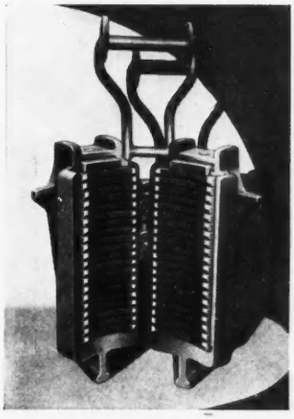
Ideal AC Generator connected to engine

FIELD EQUIPMENT Featured at International Petroleum Exposition

Mission Manufacturing Company

▪ *Mission Rotary Slips*

Mission Manufacturing Company, Houston, is displaying its rotary slip which is a true friction slip and not a wedge. The gripping mechanism consists of stacks of independently movable dogs. The rolling movement of the dogs from the pipe

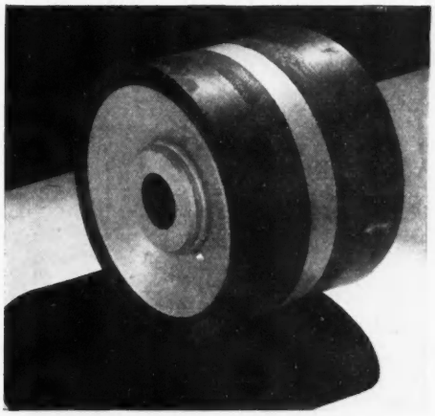


Mission Rotary Slips

brings about immediate release, forestalling pulling delays due to slips sticking in bowl. The principle of rolling dogs together with the broad friction face of the dogs where they contact the pipe, eliminates the danger of cutting or crushing pipe.

▪ *Mission Improved Slush Pump Piston*

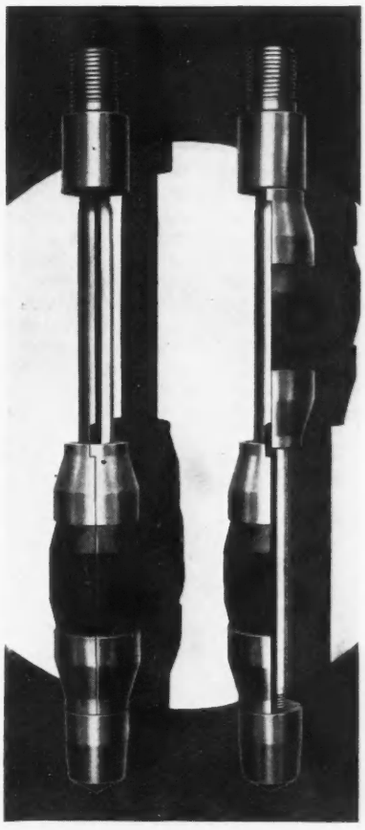
This piston is of extremely light weight, which eliminates drag. It is made of drop forged, chrome-nickel body of one-piece construction and will resist any pressure. Replaceable rubbers are used on a permanent body to lower upkeep costs. The piston is made with a large amount of rubber and less metal to eliminate by-passing, assure longer life of piston and liner.



Mission Improved Slush Pump Piston

▪ *Mission Valveless Swabs*

The Mission valveless swab is a fast-falling one due to its design wherein half the rubber remains in a fixed position, while the other half is free to rise above



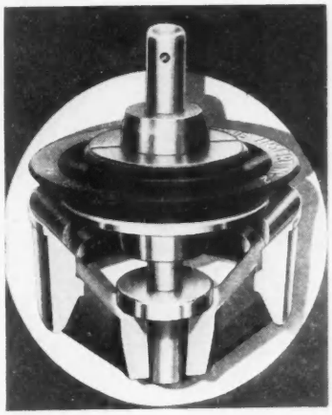
Mission Valveless Swabs

and clear of the stationary half. Thus, permitting unrestricted, open-flow of fluid. There isn't any ball and seat to get out of order. Wear on swabbing rubbers greatly reduced as the rubber passes freely through tubing on down-stroke.

▪ *Silver Top Slush Pump Valves*

These valves are made with permanent seat and replaceable bushings that will take terriffic blows.

The new tapered bushing used in the new Mission Silver Top valve is driven into the seat where it is held in a fixed position. Since it does not move, as with the former type, with each stroke of the



Silver Top Slush Pump Valve

pump, obviously two wearing surfaces are eliminated; the bottom of the bushing and the valve seat under the bushing. It is easily changed by using an attachment on the Mission seat puller.

Bucyrus-Erie Company

▪ *Mobile Drill*

Bucyruse-Erie Company, South Milwaukee, Wisconsin, is exhibiting for the first time a new mobile drill which combines cable tool and rotary rig. The drill, known as Bucyrus-Armstrong 38-W oil well drill, combines all-steel welded construction with mobility and convertibility and has the rated power and capacity to drill to 4000 feet. It is equipped with non-propelling crawler-type wheels or dual-wheel pneumatic tires. Rubber-cushioned sheaves and Bucyrus-Armstrong rubber shock absorbers under the crown sheave give elasticity to the wire line and snap to the cable tools. Tool changes are made with power-driven tool wrench. All-welded steel frame and anti-friction bearings are featured in the exhibit.

Bucyrus-Erie Mobile Drill

A heavy-duty Caterpillar Diesel engine provides power for drilling operations. Two speeds are available on rotary table, bull reel, calf reel, and sand reel. The 38-W easily is said to swing up to 6000 pounds of tools when operating as a cable-tool rig. When converted to rotary work, as conditions require, it uses a National rotary attachment of latest type. Shear poles and blocks are available as optional equipment. The machine may also be purchased without the derrick for use under the tower of a standard rig.

FIELD EQUIPMENT Featured at International Petroleum Exposition

Alexander Anderson, Inc.

▪ *Photo-Record Single-Shot*

Alexander Anderson, Incorporated, Fullerton, California, displays and demonstrates a new instrument for measuring both direction and inclination of a drilling well. This instrument provides a light weight, small diameter apparatus that gives an accurate photo record of the inclination and direction in open hole, it is claimed.

The apparatus comprises a 1-inch O. D. stainless steel instrument tube which houses from top to bottom a clock, dry cells, camera compartment with photo-record disc holder, a lens, an electric light globe, a plumb bob and a compass. The instrument is loaded with preprinted photo-record discs from a daylight loading magazine. After the instrument has been run into the hole, the photographic exposure made and the instrument brought back to the surface, the record disc is extracted and developed on the derrick floor. The photographic records are made in the hole at a predetermined interval with the operation controlled by the clock.

The inclination is read directly from the disc, but the direction is secured by means of a transparent reader which allows for magnetic declination. Interchangeable inclination units for maximum inclinations of 4°, 10° and 26° provide great accuracy and ease of reading.

The instrument is run inside a 1½-inch O.D. dural outer case, which is ¼-inch thick. An outer case of 1¼-inch O.D. may be substituted when desired. In addition to the regular method of running in a well, the apparatus can be used with a Barret-Robishaw retractable core barrel device. An outer case is designed for running and pulling with the regular Barret-Robishaw equipment and the record of inclination is taken below the bit.

▪ *Photo-Record Go-Devil*

Also shown and demonstrated is a new photo-record go-devil with an outside diameter of 1½ inches. This instrument is similar to the 1½-inch photo-record single shot but has no compass. Records of inclination are made photographically on discs which are secured as described above.

The photo-record go-devil is lowered into drill pipe to land on catches inserted above the bit. Circulation may be maintained and the pipe slowly rotated up to about one minute before the photographic exposure is to be made. This instrument may also be conveniently run on a Haliburton line, in which event, the outer case may be somewhat reduced in weight if desired. Moreover, a 1¼-inch O.D. case may be substituted for the regular 1½-inch size.

▪ *Magnetic Single Shot*

The standard Anderson photo-record single shot instrument is displayed. This instrument is run into a well on sand line. It measures both direction and inclination in open hole, and is equipped with interchangeable inclination units for maximum inclinations of 5°, 10° 25° and 65°. It is run into the well in a dural

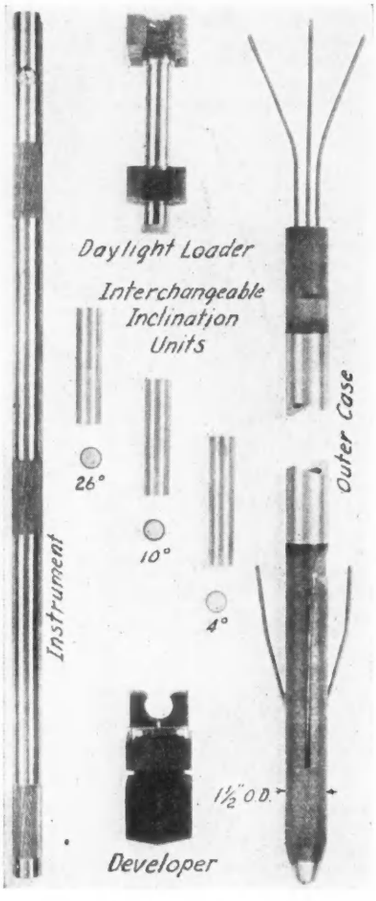


Photo Single Shot Instrument

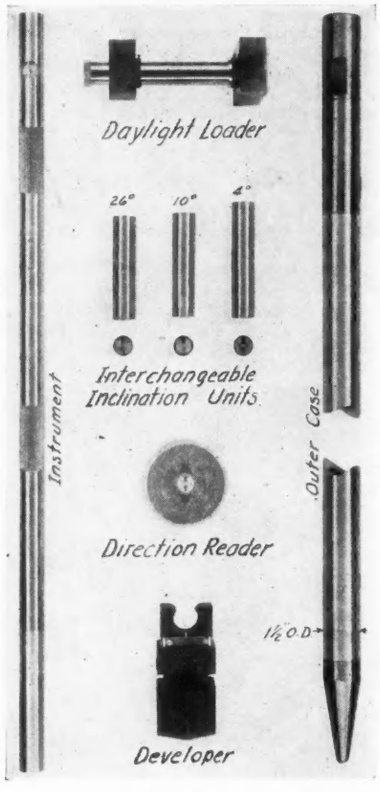


Photo Record Go-Devil

Anderson Photo-Record Magnetic Single-Shot Survey Instrument

Lewis Knuckle Joint

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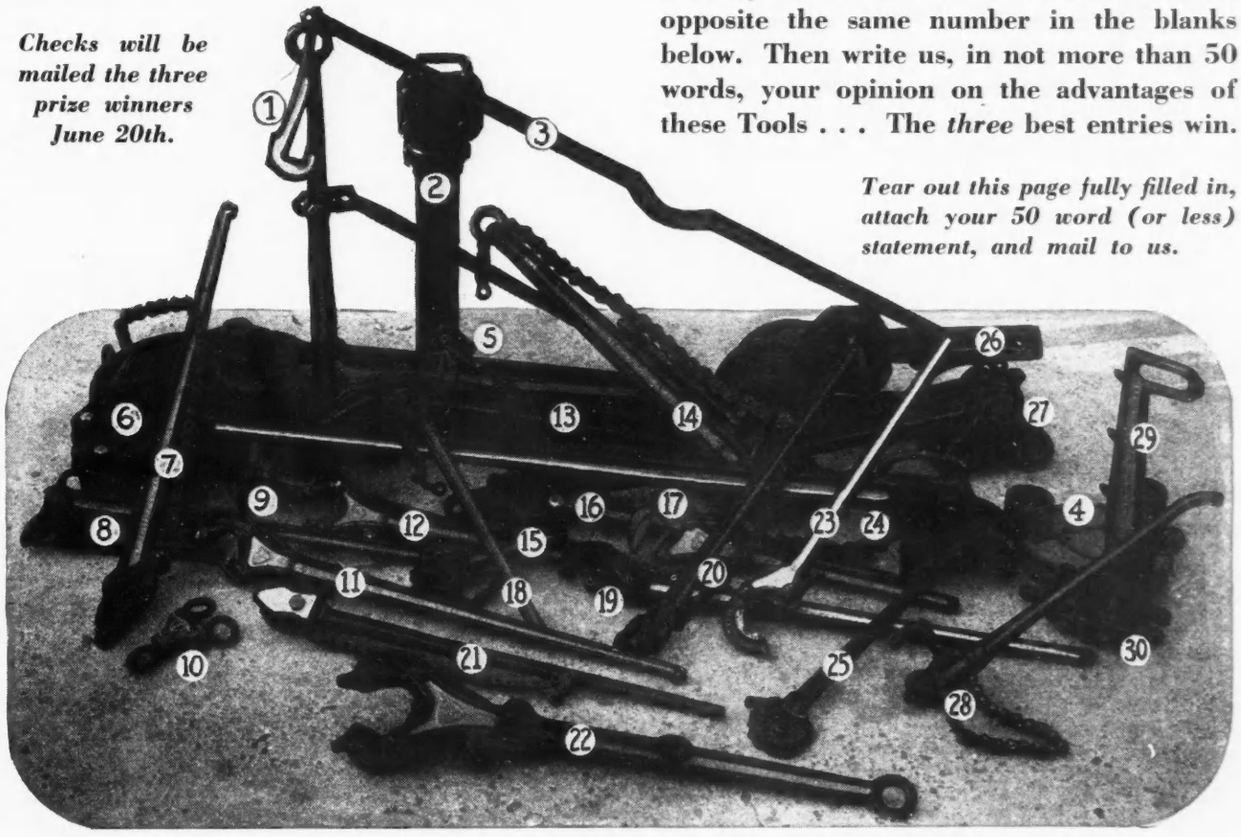
Checks will be mailed the three prize winners June 20th.

It's easy . . . Just identify the tools shown here by the numbers, and write the names opposite the same number in the blanks below. Then write us, in not more than 50 words, your opinion on the advantages of these Tools . . . The *three* best entries win.

Tear out this page fully filled in, attach your 50 word (or less) statement, and mail to us.



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Kinzbach Whipstock

outer case of 3½-inch O. D. and furnishes a photo-record disc that is developed and ready for use on the derrick floor within four minutes after the apparatus reaches the surface. The recording unit is loaded with the record disc from a daylight loading magazine and the discs are developed in a one-ounce developing tank in broad daylight. Readings are direct and in terms of true bearings by allowance being made on the compass card for magnetic declination at the location the survey is made.

▪ *Lewis Knuckle Joint*

This tool displayed by Alexander Anderson, Incorporated, is designed to enable the operator to change the course of a well, both vertically and horizontally, and to direct it toward a predetermined point below ground. It is operated with normal rotation of the drill pipe and the usual mud circulation. This device is built to knuckle at an angle of five degrees. It has a spring-actuated cam keyed to the lower member which causes the lower part to knuckle in a fixed direction with respect to the upper part. It is adaptable for directional drilling, for straightening holes, for sidetracking and for redrilling operations of all kinds, it is claimed.

▪ *Kinzbach Whipstock*

In the Alexander Anderson, Incorporated booth is also displayed the Kinzbach whipstock and mill. This whipstock is used when going out of casing and has a trigger locating device which insures setting the tool in the pipe so that the window will be between couplings. Its upper part is hinged to the butt so that the top will lie against the side of the casing and allow a full sized mill to pass.

The Kinzbach mills are of a special design and will cut any grade of casing cleanly and with ease, it is said.

The Cavins Company

▪ *Clean-Out Tools*

The Cavins Company of Long Beach, California, is showing a setup of its perforation washer, pack-off shoe, and up-trip attachment.

The suction bailer on display is readily converted into a perforation washer by the addition of a screw type of pack-off shoe, and an up-trip attachment for placement between the suction chamber and the jar assembly. The function of the pack-off shoe is to concentrate the loading of the tool at one point. A fluid by-pass built into the part allows the tool to be more quickly lowered into, or withdrawn, from the hole.

The up-trip attachment reverses the manner in which the suction chamber valve is opened. In practice, the operator lowers to the location to be washed and starts out of the well. In pulling upward, the bow springs actuate the main valves from contact with the casing, exposing the suction chamber to the formation and well pressures.

Left: Cavins Automatic Hydraulic Suction Bailer.

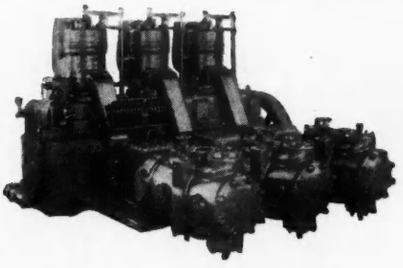
Center: Cavins Pack-Off Shoe.
Right: Up-Trip Attachment.

Clark Bros. Company

▪ *Engines and Compressors*

Clark Bros. Company, of Olean, N. Y., is showing its new developments in its line of engines and compressors.

The Clark right-angle super two-cycle engine is a recent development in gas engine-driven-compressors, which reduces the floor space, foundation,

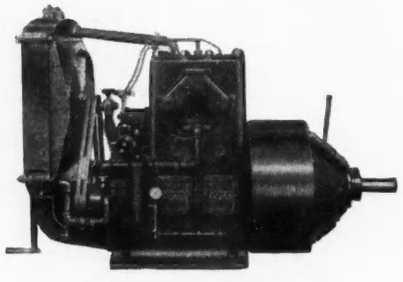


Clark Two-Angle Compressor

building and installation costs as compared to the conventional horizontal compressors. This engine features the Clark super two-cycle injection system full-force feed lubrication—an entirely new development of scavenging two-cycle engines which greatly increases the power available. The running gear of this engine is very accessible and many new details of construction and design are incorporated in the Clark super two-cycle engine.

The Bobcat engine, although it has been serviced for over four years, has not been exhibited at the exposition previously. This engine is an advanced design of vertical pumping engine incorporating the two-cycle principal of no valves combined with dependable performance of a two-cycle engine with the even torque outfit and smoothness of a vertical engine. The Bobcat engine is a two cylinder vertical two cycle engine with 7½-inch bore and a 9-inch stroke and rated at 40-horsepower at 400 revolutions per minute.

The Bobkitten engine is a 25/30-horsepower vertical two-cycle pumping engine rated at 600 revolutions per minute. This engine is an enbloc engine with a built-in power take-off and clutch. The Bobkitten engine is built complete with radiator and water pump and can be set directly on the beams of a gear driven or chain driven pumping unit.



Clark Bobkitten Engine

FIELD EQUIPMENT Featured at International Petroleum Exposition

Twin Disc Clutch Company

▪ *Model E Clutch*

Twin Disc Clutch Company, Racine, Wisconsin, is exhibiting the recently designed Model E enclosed single and double plate clutch assemblies ranging from 14 to 30 inches in diameter. Conservation of space seems to have been one of the main considerations in the design of the Model E, although the maximum bores in the clutches are large enough to accommodate oversize shafts. Needle bearings at the pivot points of the clutch levers and hardened and ground parts in the engaging mechanism tend to produce easy engaging action. Model E clutches are built in sizes suitable for a range of from 13 to 160 horsepower. Moving parts are designed to accomplish statically and dynamically counter-balanced conditions. It is claimed single point adjustment can be obtained from the outside of the clutch without use of any tools. The Model E clutches are equipped with gear tooth drive.

▪ *Power Take-Off*

Another feature of Twin Disc Clutch Company's exhibit is the power take-off unit for oil well pumping engines. The complete clutch and power take-off unit are mounted in a rigid cast iron housing.

Hercules Motors Corporation

▪ *Engines and Power Units*

At the ninth International Petroleum Exposition Hercules Motors Corporation, Canton, Ohio, has an extensive exhibit.

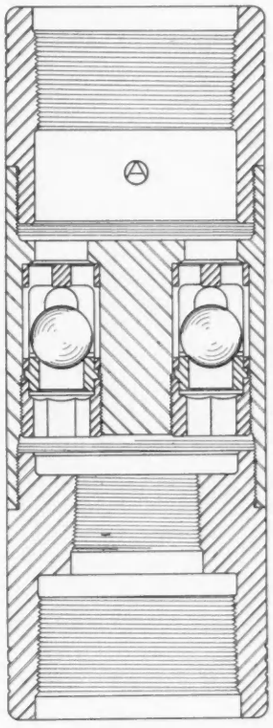
With 50 percent more space than last year Hercules has arranged to show gasoline engines and power units, also engines arranged for operation on natural gas, and in addition a complete showing of its six cylinder Diesel engines and power units — Models "DHXB" 5 x 6, "DRXB" 4⅜ x 5¼ and the "DJX" series 3½ x 4½ and 3¾ x 4½ inches.

Two recent developments exhibited are the "JXC" six cylinder 3¾ x 4½ and the "HXE" six cylinder 5¾ x 6 inches "low fire hazard units." These are arranged for operation on natural gas and are equipped with shielded and waterproof ignition equipment, air intake and crankcase breather flame arresters, water cooled exhaust manifolds, gas valves and regulators—these units being built up on a solid type of power unit base.

Axelson Manufacturing Company

▪ *Axelson Multiple Standing Valve*

Axelson Manufacturing Company, Los Angeles, is showing the Axelson multiple standing valve which is an improved unit to increase the fluid capacity through the standing valve, and to decrease the impact on the valve seat by increasing the seating area. This is accomplished by dividing the load onto five relatively small standard API valves working in parallel. This unit allows the plunger bottom valve

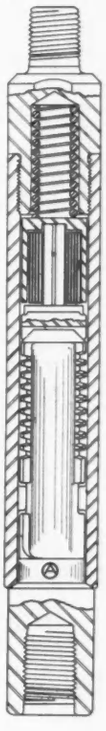


Axelson Multiple Standing Valve

to operate within a few inches of the standing valve, thus eliminating space for gas locking. The cage unit is equipped with hardened ball guides and bumpers. The threaded connections at the upper and lower ends are available for either API plain or upset tubing.

▪ *Axelson on or off Attachment*

The Axelson on or off attachment is designed to eliminate stripping jobs in any type of installation. In wells where heaving sand is encountered it is recommended this attachment be installed sufficiently high in the rod string to prevent its sanding up with the pump. In this case and particularly if the unit is being run in 3-inch or 4-inch tubing, it is essential that an Axelson guide type coupling be connected to the top and bottom of the attachment so that engagement may be easily made when running in the rods. Engagement or disengagement may be made at will without withdrawing from the well. The rod rotation is always toward the right, thus eliminating the hazard of unscrewing the couplings.



Axelson on or off attachment

▪ *Acme Rod Sectional Liner Traveling Pump*

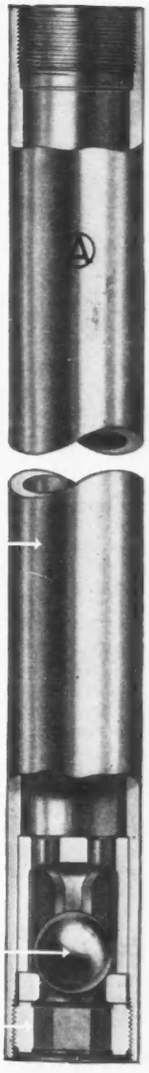
The Axelson Acme rod sectional liner traveling pump offers the metal-to-metal principle. It is simple in design, consisting of a barrel tube equipped with two liners that operate over an accurately ground plunger which also serves as a pull tube. The standing valve at the top of the plunger assembly remains in the barrel tube extension above the top liner. This allows the standing valve to be of an oversize construction

The lower hold down construction permits the seating of the pump in a nipple or in an old barrel previously installed in the well.

The engagement of the tongue and groove feature in this pump prevents the plunger from rotating.

▪ *Axelson Perry Plunger*

The Axelson Perry plunger reduces gas locking to a minimum. It consists of a plunger bottom valve contained entirely within the plunger, allowing free upward passage of fluid and gas. This type of plunger assembly allows the working valve to operate within a very short distance from standing valve, thus assuring maximum volumetric displacement of the plunger travel. The elimination of the gas trap space which occurs when the working valve and the standing valve are widely spaced is particularly advantageous in deeper wells as the high compression ratio on the trapped gas causes a large portion of the working stroke to be used in compressing and expanding the gas which could not rise into the fluid column. This Perry feature may be obtained in any type of Axelson plunger for stationary pumps.

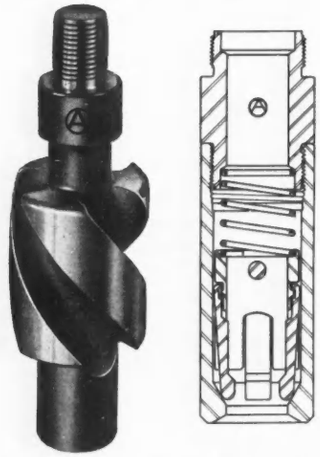


Axelson Perry Plunger

▪ *Axelson Guide-Type Paraffin Scraper Coupling*

The Axelson guide type paraffin scraper coupling maintains alignment of the reciprocating portion of the pump and sucker rods within the tub-

ing string. It is also designed to remove paraffin deposits from the tubing upon pulling the rods. In the case of a traveling type pump the coupling connects the first sucker rod to the top cage and maintains proper alignment of the traveling barrel as it operates over the stationary plunger. In a stationary type pump it is necessary to install a sufficiently long sub rod with this type coupling on the upper end to allow the coupling to operate just out of the barrel on the maximum down stroke. This proper guiding of the plunger is accomplished as the plunger works out of pump barrel when in pumping motion.



Left: Guide Type Paraffin Scraper Coupling.
Right: RSL Stationary Pump

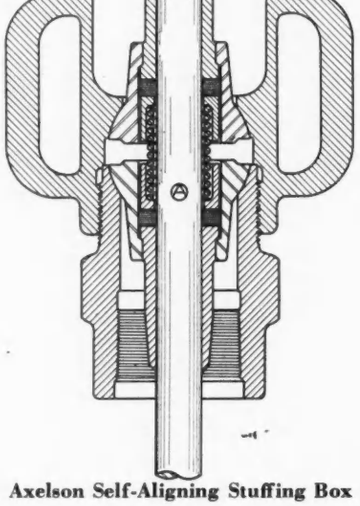
Guide couplings should be used at those points in a crooked tubing string where the rods would scrape the tubing thus eliminating undue wear on the rods. These couplings are made of a case hardened material affording long life.

▪ *RSL Stationary Pump With Lock Type Sealing Hold Down*

The Axelson RSL stationary pump with lock type sealing hold down eliminates sand packing between the pump and the tubing. This is accomplished by completely suspending the pump from its upper end which constitutes the hold down assembly. The hold down body has a ground tapered portion which fits into a complementary seat in the upper end of the locking unit. The pump is held into place by means of a spring-prong lock. By perforating a portion of the tubing below the hold down shoe and installing a suitable length of tail pipe, effective separation of oil and gas is secured.

▪ *Axelson Self-Aligning Stuffing Box*

The Axelson self-aligning stuffing box compensates for misalignment of the polished rod, thus eliminating undue wear and friction on the polished rod and followers and lowering fire hazards. It is designed on the metal to metal seal principle, having two cast iron followers that accurately fit the polished rod with two standard packing

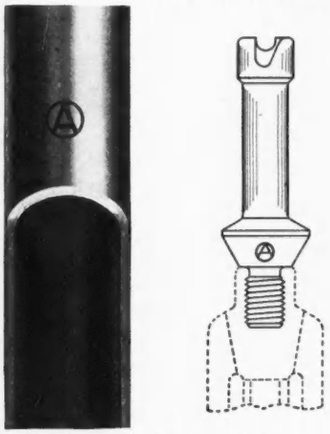


Axelson Self-Aligning Stuffing Box

rings which act as gaskets. The ball joint, from which alignment is maintained, and the polished rod are properly oiled by means of a grease fitting which is inserted in a tapped hole in the cap. Grease leakage is prevented by a check valve in the bottom of the grease hole.

▪ *Axelson Heavy-Duty Standing Valve Puller*

The Axelson heavy-duty standing valve puller is designed to be positively controlled from the surface. It incorporates a jarring feature for removing tight standing valves, and a ratchet arrangement which prevents unscrewing when disengagement is made and which holds the plunger against rotation when engaged and turned to the right. The construction of this assembly makes it possible to set the rods down without damage to the puller or pin. Accidental engagement or disengagement cannot occur as the rods must be rotated while the puller unit is setting on the standing valve.



Left: Axelson Nitricastiron Liners.
Right: Axelson Standing Valve Puller.

▪ *Axelson Nitricastiron Liners*

The Axelson Nitricastiron liners present increased resistance to corrosion and abrasion as encountered in reciprocating oil well pumps.

Due to the composition and special heat treatment of these liners an abnormal hardness is obtained and a uniform distribution of graphite which develops a mirror-like smoothness and produces very little frictional resistance to the passage of the plunger. It is recommended that these liners be run with chromium plated or super-service plungers.

Gaso Pump & Burner Manufacturing Co.

▪ *New Duplex Type Pump*

Gaso Pump & Burner Manufacturing Company, Tulsa, is exhibiting a 5-inch stroke duplex double acting piston type pump with interchangeable liners from 2½-inch bore to 4-inch bore. This new pump, known as Figure 2147, was designed to meet the demand for a lightweight slush pump to mount on trucks with rotary drill equipment in seismograph exploration work.

The general appearance and contruction of the pump is similar to the larger Gaso pumps. The main frame completely encloses crank shaft, gears, connecting rods and cross heads and is of sufficient length to prevent overlap of piston rod. Crank shaft and connecting rods are of high grade cast steel alloy. Gears are cut stub tooth spur gears having a gear ratio of 5.07 to 1. Crank shaft and pinion shaft bearings are roller bearings. The fluid end is of the valve pot type, the discharge valves being located directly above the suction valves and covered with an individual cap. The valve areas are large and suction valve and seat can be easily removed through the discharge valve seat.

Normal capacities of this pump at 75 revolutions per minute range from 29 gallons per minute at 500 pounds per square inch working pressure with 2½-inch liners to 79 gallons per minute at 200 pounds per square inch with 4-inch liners.

This pump can also be equipped with proper valves and conveniently mounted on a steel skid with electric motor or gasoline engine and driven with V-belts for general oil or water pumping service.

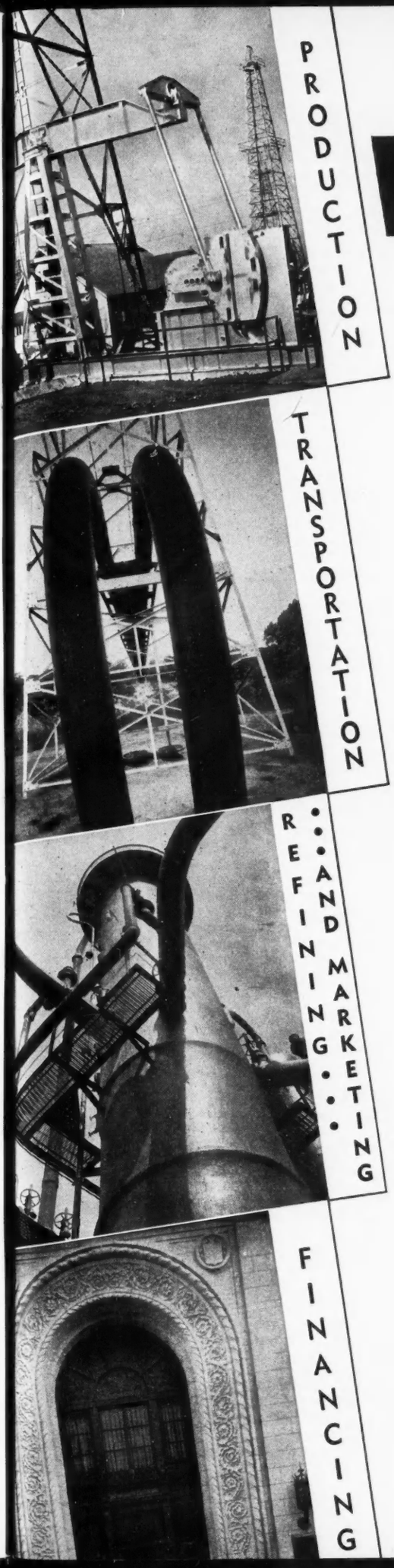
▪ *New Worm Drive Power End*

Gaso is also displaying a new worm drive power and for their 4-inch by 6-inch duplex pump to permit same to be directly connected to driving engine or motor. This unit has the same capacities and pressures as present Fig. 1844 pump which is belt driven.

SKF Industries, Incorporated

▪ *Roller Bearings*

SKF Industries, Incorporated, Philadelphia, displays the SKF spherical roller bearing at the Ninth International Petroleum Exposition. Other types of SKF bearings adapted to oil field applications are also shown.



The Oil Bank of America

OIL Industry's headquarters are here in Tulsa, making it the OIL CAPITAL OF THE WORLD.

And here, too, is the OIL BANK OF AMERICA, putting the strength of its financial resources behind every branch of the industry. Individuals and corporations appreciate what this title signifies and daily make use of its service features, and the seasoned advice of its officers.

You'll find that the Oil Industry always turns to the National Bank of Tulsa because its outstanding co-operation makes it the OIL BANK OF AMERICA.

NATIONAL BANK OF TULSA

TULSA, OKLAHOMA

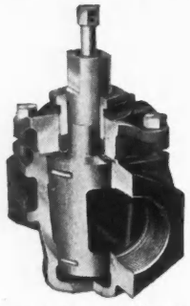
Member Federal Deposit Insurance Corporation

FIELD EQUIPMENT Featured at International Petroleum Exposition

Merco Nordstrom Valve Company

▪ *Lubricated Plug Valves*

Merco Nordstrom Valve Company, Pittsburgh, Pennsylvania, and Oakland, California, is showing a complete line of lubricated plug valves for use in the oil industry. Nordstrom valves are made in all sizes from ½-inch to 30 inches in a variety of materials, wrench



Cut-away view of Nordstrom Lubricated Plug Valve

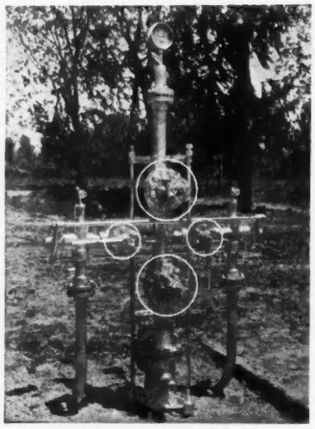
or gear operated, and for pressure ranges of up to 3000 pounds per square inch.

This company is showing the EMCO-Nordstrom valve which widens still further the application of their well known line of lubricated plug valves. EMCO-Nordstrom valves have standard gate valve face-to-face dimensions and thus may be used for replacement service in existing lines, due to their corresponding dimensional size.

▪ *Master Control Christmas Tree Valve*

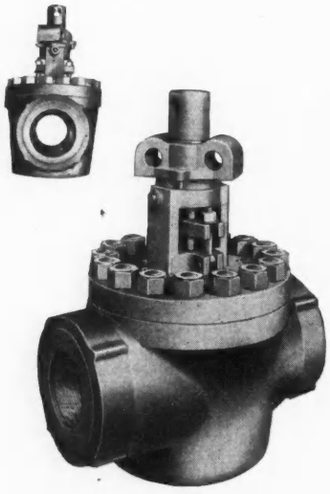
Production men will be particularly interested in the Master Control and Christmas Tree Valves built by Nordstrom. The Drilling Through Valve is of the plug type embodying two distinct features. The plug is designed with a round opening in the sizes normally used, and the mechanical lift principle is combined with the well

Emco-Nordstrom Valve



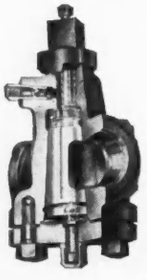
Merco Nordstrom Assembled Christmas Tree

known lubricated plug principle to provide ease of operation and absolute shut-off. With the round opening, which is the same size as the casing or tubing, no eddy or turbulent flow can exist and thus much of the cutting action by sand is eliminated.



Master Control and Christmas Tree Valve

Drilling Through and Master Control Valves can be provided for all sizes and pressures normally encountered in drilling operations. They can



Nordstrom Hypreseal Valve

be operated by means of either single or double bar control or by gearing.

▪ *Nordstrom Hypreseal Valve*

The Hypreseal operating stem is non-integral with the plug and is threaded into the valve casing, thereby carrying the thrust due to internal fluid pressure upon a threaded shank instead of on a fibre packing. The plug is held in contact with the seat by means of a separate adjusting screw operating through a spring cover.

Guiberson Corporation

The Guiberson Corporation of Dallas, Texas, manufacturer of oil well specialties, is showing an extensive display of its swabbing, packing, oil saving and relative equipment.

▪ *Tubing Spider*

The company's tubing spider is exhibited in an intermediate weight between the light and heavy types, featuring two new improvements in this patented spider, (1) the guide head for guiding tubing into exact center of the spider's bore, and (2) the balanced handle for easy, semi-automatic, safe handling of the slips. The range of types offered will handle all sizes and weights of tubing.

▪ *Type K Swab*

In addition to its line of flexible-cup swabs is a special design for swabbing tubing, which gives more fluid by-pass area through the swab than does Type "E." This is accomplished by placing the valve at the top. This increase in by-pass area allows the Type "K" to fall faster through the fluid. Type "E" cup assemblies, sleeves and thimbles are interchangeable with Type "K."

▪ *Floor Block*

Also on display is a floor block of simple and sturdy construction, and can be moved from well to well with portable well servicing equipment. One block can be used for a number of wells. The block is so constructed that a lateral movement of 45 degrees each way from the vertical position is possible. This permits the block to lean toward the pulling unit at the correct angle for any position of the pulling machine when the load is applied. The block will not fall when slackening line. Each type of assembly is furnished with a simple swivel arrangement which assures alignment and saves wire line from excess wear.

▪ *Control-Head Packer*

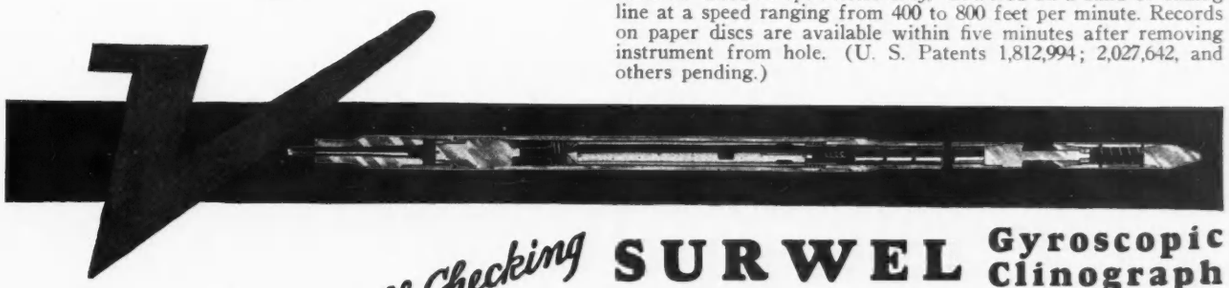
The Type "G" model of the control-head Packer offers four improvements in packer design. These are (1) Du-pont Company's "Duprene" in place of rubber—claimed to be unaffected by oil and gas, proof against sticking, more

CHECK THE ADVANTAGES of all 3 of these SELF-CHECKING WELL SURVEYING INSTRUMENTS

The Self Checking

H-K Clinograph

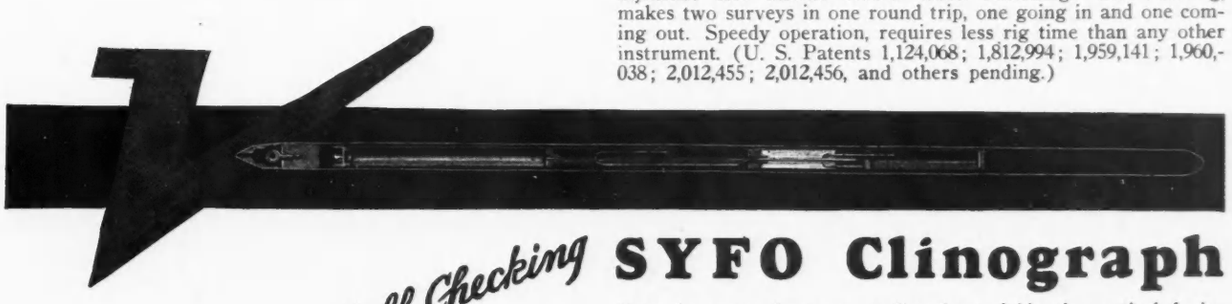
Records in *single readings*, accurately and automatically by photography, both the amount and the direction of inclination. Uses floating compass not subject to breakage; is self-checking and reliable. Used in *open holes only*. Lowered on a sand or bailing line at a speed ranging from 400 to 800 feet per minute. Records on paper discs are available within five minutes after removing instrument from hole. (U. S. Patents 1,812,994; 2,027,642, and others pending.)



The Self Checking

SURWEL Gyroscopic Clinograph

The most accurate and reliable method ever devised for making underground surveys of bore holes, providing a true map of the course of the well at all depths, prepared from actual photographic records. Not affected by *Tortuosity* nor by *Magnetic influence* nor *human errors* when recording. Self-checking, makes two surveys in one round trip, one going in and one coming out. Speedy operation, requires less rig time than any other instrument. (U. S. Patents 1,124,068; 1,812,994; 1,959,141; 1,960,038; 2,012,455; 2,012,456, and others pending.)



The Self Checking

SYFO Clinograph

Records accurately on paper directly readable, the vertical deviation of a bore hole without the use of dangerous acids. Is speedy, self-checking, simple to operate and inexpensive. Can be used on a wire line or as a "Go-Devil" running inside the drill stem or on sand or bailing line in open hole. (U. S. Patents 1,962,634; 2,013,875, and others pending.)

SPERRY-SUN WELL SURVEYING COMPANY

1608 Walnut Street, Philadelphia, Pa.

TULSA, OKLAHOMA
425 Petroleum Building

HOUSTON, TEXAS
3118 Blodgett Avenue

LONG BEACH, CALIF.
549 E. Bixby Rd., (3800 Block—Atlantic Ave.)

durable than rubber; (2) two narrow rubbers increase certainty of a tight pack; (3) slips operate on dovetail tracks, to insure accurate alignment and operation; (4) increased by-pass space.

▪ *California Packer*

Similar to the Type "G" packer (described above) is the new Type "GT" California control-head packer. This all-purpose packer is constructed in such a way that the packer valve, when open, is 30 inches above its seat—thus eliminating nozzling effect on the valve and the consequent cutting action while running in or circulating. This long valve lift also allows valve to be opened after packer is set without changing the set position of packer. In releasing or recovering packer, this long stroke enables operator to strike a hard blow, if necessary, against the sliphead to disengage the packer slips.

▪ *High-Pressure Oil Saver*

A new Type "C 2" high-pressure oil saver is well suited for tubing and drilling of wells under pressure, and is recommended for working pressures up to 600 pounds. With the rubbers screwed back, this oil saver will pass anything up to 10-inch diameter. It can be equipped with almost any type of adapters.

Also shown is the company's Type "D" high-pressure oil saver, which is similar to Type "C 2" and is primarily designed to be used in connection with other high-pressure equipment for tubing and drilling of wells under pressure. This oil saver will pass anything up to 7 inches O. D., and is recommended for working pressures up to 1500 pounds. It is so constructed that no special adapters are needed to make it suitable for use with most of the standard high-pressure equipment. The housing is heavy one-piece, steel casting, accurately machined inside and out.

Sucker Rod Stripper

Another item of the display is a sucker rod stripper, a simple, four-piece device, which is easily installed and positive in action. It assures efficiency by stripping the rods of paraffin and oil in coming out, preventing oil and gas from leaking by when rods are being pulled or run, and by keeping the derrick floor as clear of oil and sulphur as possible under average working conditions.

▪ *Other Products*

In addition to the above items, the same company is showing a line of tubing catchers, liner packers, spiral bottom water plugs, and a motion picture of some of their equipment in actual field use.

Maloney Tank Manufacturing Company

▪ *Galvanized Bolted Steel Tanks*

Maloney Tank Manufacturing Company, Tulsa, Oklahoma, is featuring two of the company's new "Double Hot Dip" galvanized, keystone copper, steel bolted steel tanks, with an installation of Maloney cantilever-type, self-supporting sectional steel walkway and stairway.

Maloney galvanized tanks for "sour" crude storage are given an especially heavy galvanized coating, after fabrication of the parts. The zinc spelter weighs 7 pounds per 100 pounds of steel, the manufacturer states. Steel sheets and parts are first given prolonged treatment in muriatic bath to assure a tight bond between steel and zinc. Virgin zinc, 99.9 percent pure, with no lead content, is then applied by the double hot dip process. Application of coating after fabrication coats all edges including bolt holes, and avoids any possible damage to the coating during fabrication, it is said.

Maloney features the large 30-inch by 48-inch clean-out plate; also a side sheet in one of the tanks demonstrated chromated iron oxide paint on the inside and the same material used as priming coat on the outside, with half the sheet finished with grade aluminum paint. A new segmental deck with rafter assembly is also featured on these tanks, and the deck of each tank has an 8-inch by 18-inch combination vacuum-pressure valve and thief hatch.

▪ *Steel Stairways and Walkways*

Maloney cantilever-type, self-supporting stairways and walkways being exhibited are offered either galvanized or with special two-coat pain finish. The stairways and walkways are supported on steel brackets attached to tanks. They have no ground supports. They are made in sectional, interchangeable four- and six-foot units of standard width, making available any desired lengths in multiples of 2 feet, and are adaptable for any length of single or multiple battery and any height or combination of heights of tanks. Any combination of stairways and main and branch walkways may be quickly constructed from the standard units by a process of assembling.

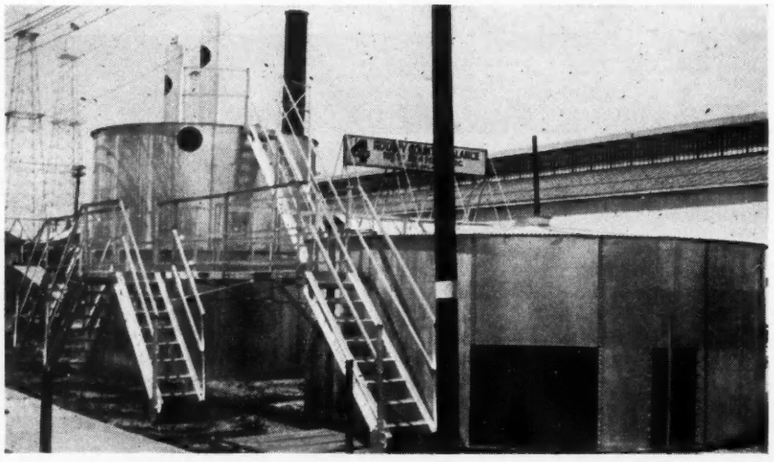
Iverson Tool Company

▪ *Tubing Tongs*

Iverson Tool Company, Tulsa, is featuring the Iverson "Holdfast" tubing tong. The tong almost completely encircles the pipe, a fact which the manufacturer claims prevents crushing. The tong snaps

Iverson Holdfast Tubing Tongs

on the pipe and will remain in one position on the pipe. Instead of having a dead pull on the handle, it will move forward slightly before the die takes hold. Dies are so placed as to take the wear in the tong instead of allowing the wear to come in the tong jaws directly. "Holdfast" tongs are made for 2 and 2½-inch tubing.



Maloney Galvanized Tanks and Maloney Self-Supporting Steel Stairways and Walkways

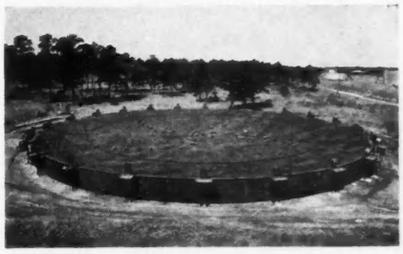
FIELD EQUIPMENT Featured at International Petroleum Exposition

Chicago Bridge & Iron Works

▪ ***Wiggins Balloon Tanks***

Chicago Bridge & Iron Works is featuring the Wiggins Balloon in its display at the International Petroleum Exposition. This new type of system to stop evaporation loss is similar in theory to the Wiggins Breather Roof. It stops evaporation losses by providing temporary storage for vapor from tanks and refinery equipment and then returns the vapor to the tanks.

The Wiggins Balloon is constructed of steel, and assembly in the field is made by electric welding. It is of large diameter with a height of but a few



Chicago Bridge Wiggins Balloon

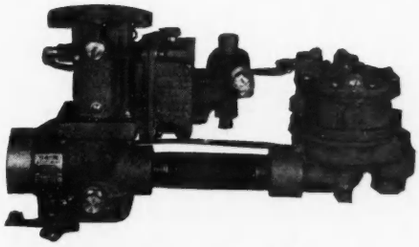
feet. The operation principles of this steel balloon are comparatively simple: Pipes are connected to the vapor space of the tanks so that when the vapor expands, instead of passing off into the air and being lost, it is passed along to the balloon, causing it to expand to meet the flow of the gas. Then, when the gas in the tanks contracts it flows back into the tanks.

Controlling pressure and vacuum valves are included as a safety measure in case the balloon should receive more vapor than it is constructed to hold. The tanks which are connected to a Wiggins Balloon may contain several different grades of oil. Tanks containing sour oil and sweet oil cannot be included in the same system. The balloon can be installed on existing tanks without affecting present tank operation.

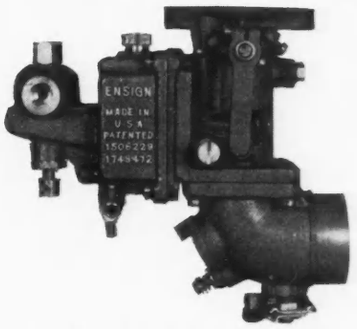
Ensign Carburetor Company

▪ ***Carburetors***

Ensign Carburetor Company's exhibit contains various sizes of gasoline,



Ensign Combination Gas and Gasoline Carburetor



Ensign Type K Gasoline Corburetor

natural gas, combination gas and gasoline carburetors, and fuel regulators.

A portion of this exhibit shows cut-

Ensign Natural Gas Carburetor

out models of various types of fuel regulators and the butane heat exchanger with pressure regulator. These cut-out models will show exactly how this butane equipment is manufactured and how they function in actual service.

Otis Square Kelly Pressure Drilling Head

Otis Pressure Drilling Head

▪ ***Otis Pressure Drilling Head***

Otis Pressure Control, Inc., Dallas, is featuring the Otis square kelly drilling head for use in drilling under pressure with a square kelly and ordinary outside coupled drill stem.

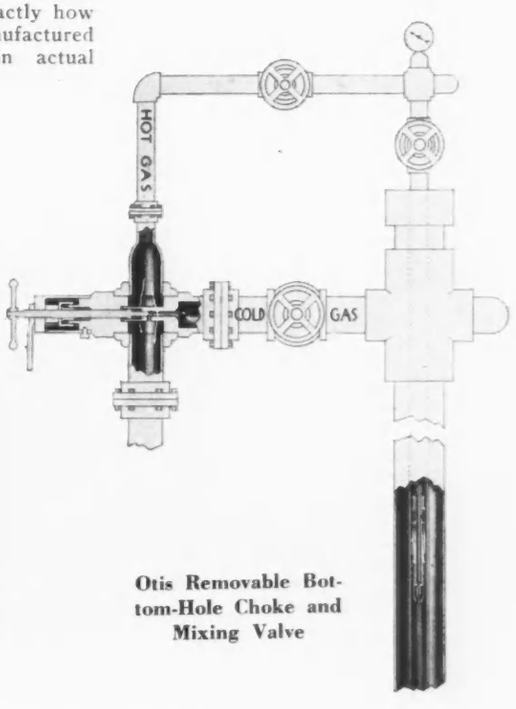
The Otis method and patented equipment make it unnecessary to mud off your sands and eliminate danger of a blow out with resultant losses and well damage, states the manufacturer.

▪ ***Otis Removable Bottom-Hole Choke and Mixing Valve***

The Otis removabzle bottom-hole choke is said to eliminate the freezing which often takes place at the surface controls and separators on high-pressure wells.

The Otis choke can be run into the well, set at any desired depth in the tubing, and removed at will without pulling the tubing.

The Otis mixing valve permits ready variation in the rate of withdrawal from a well equipped with an Otis removable bottom-hole choke. It does this by making possible the taking of production from the casing head, with the hot gas from the tubing acting as a heater to prevent freezing. Especially applicable for any condition under which a varying rate of withdrawal is desired.



Otis Removable Bottom-Hole Choke and Mixing Valve

Official Program
International Petroleum Exposition

Wednesday, May 13

10:00 a.m.—Natural Gasoline Association of America, opening session, Tulsa Hotel.

1:00 p.m.—Natural Gasoline Association of America, afternoon session, Tulsa Hotel.

Thursday, May 14

9:00 a.m.—Natural Gasoline Association of America, morning session, Tulsa Hotel.

9:30 a.m.—American Petroleum Institute, 6th mid-year meeting, Production Division, Drilling Practice, Mayo Hotel, 16th floor.

10:00 a.m.—American Petroleum Institute, Refining Division, Lubrication, Mayo Hotel, mezzanine.

10:00 a.m. — American Petroleum Institute, Board of Directors, Mayo Hotel lounge room.

1:00 p.m.—Natural Gasoline Association of America, afternoon session, Tulsa Hotel.

2:00 p.m.—American Petroleum Institute, Production Division, Production Practice, Mayo Hotel, 16th floor.

2:00 p.m.—American Petroleum Institute, Refining Division, Miscellaneous, Mayo Hotel, mezzanine.

7:00 p.m.—American Petroleum Institute Entertainment, Coliseum.

Friday, May 15

9:00 a.m.—Natural Gasoline Asociation of America, morning session, Tulsa Hotel.

9:30 a.m.—American Petroleum Institute, Production Division, Production Allocation and Problems and Research, Mayo Hotel, 16th floor.

10:00 a.m.—American Petroleum Institute, Refining Division, Dewaxing, Mayo Hotel, mezzanine.

1:00 p.m.—Natural Gasoline Association of America, afternoon session, Tulsa Hotel.

6:00 p.m.—Institution of Petroleum Technologists, London (first American meeting), dinner and meeting, Mayo Hotel.

Saturday, May 16

Refiners Day, W. G. Skelly, President Skelly Oil Company, host.

Directors of the Day: Clyde Alexander, R. H. Bartlerr, Frank R. Billingslea, Allmand M. Blow, A. F. Bourne, W. M. Bovaird, A. E. Bradshaw, J. H. Rooks, E. J. Bullock and W. L. Connelly.

In honor of West Virginia, Pennsylvania—Sisterville, Clarkesburg, Oil City, Bradford, Titusville, Franklin.

9:30 a.m.—Exposition gates open.

2:00 p.m.—Opening ceremony in charge of the American Legion. W. A. Irvin, president of United Steel Corporation will give the opening address.

3:00 p.m.—Registration of delegates from foreign countries, Exposition office at grounds.

4:00 p.m.—Registration of "Old Timers" of the Petroleum Industry in Replica of Old Drake Well, Exposition grounds.

6:30 p.m.—Band Concert, Exposition grounds.

Sunday, May 17

Natural Gasoline Day, W. K. Warren, Warren Petroleum Company, host.

Directors for the Day: O. T. Dawson, R. E. Day, C. P. Dimit, Ray L. Dudley, George A. Day, R. S. Ellison, W. S. Farish, Harold B. Fell, E. R. Filley and W. S. Fitzpatrick.

In honor of: California, Oklahoma—Los Angeles, Seminole, Drumright, Ada, Glenpool, Cushing, Fairfax.

9:30 a.m.—Exposition gates open.

3:00 p.m.—Ceremony dedicated to "Old Timers," Exposition grounds. Rev. Guy Tetirick, chairman.

6:30 p.m.—Band concert, Exposition grounds.

8:45 p.m.—Oil fire demonstration, Tulsa State Fair grandstand.

Monday, May 18

Production and Purchasing Agents Day, R. B. Pringle, Tide Water Oil Company, host.

Directors for the Day: J. P. Flanagan, Walter Fleming, C. W. Flint, H. V. Foster, Jacob France, Wirt Franklin, J. H. Gardner, Robert F. Garland, J. Burr Gibbons, and Walter Gray.

In honor of: Michigan, Ohio—Findlay, Muskegan.

9:30 a.m.—Exposition gates open.

10:00 a.m.—Junior Chamber of Commerce Young Oil Men's Day, Registration Lobby Third floor, Tulsa Building.
Student Engineers Day, sponsored by University of Tulsa.

12:00 noon—Luncheons: Civitan Club, Alvin Hotel; Kiwanis Club, Mayo Hotel.

2:00 p.m. to 4:00 p.m.—Junior Chamber of Commerce Young Oil Men's Trip through the Diamond D-X Refinery.

6:30 p.m.—Band Concert, Exposition grounds.

8:30 p.m.—Junior Chamber of Commerce, Young Oil Men's Stag Party, University Club, Tap room.

Tuesday, May 19

Pipe Line Day, R. O. Dietler, Stanolind Crude Oil Company, host.

Directors for the Day: Rush Greenslade, Henry Greis, L. S. Gregory, S. A. Guiberson, Jr., P. D. Hayes, J. M. Hayner, Alf G. Heggem, J. H. Hill, Frank J. Hinderliter, and B. E. Horrigan.

In honor of: Kentucky, Kansas—Bowling Green, Owensboro, Wichita, Eldorado, McPherson, Ashland, Hayes, Hutchinson.

12:00 noon—Luncheons: Junior Chamber of Commerce, Chamber of Commerce dining-room; Traffic Club, Mayo Hotel.

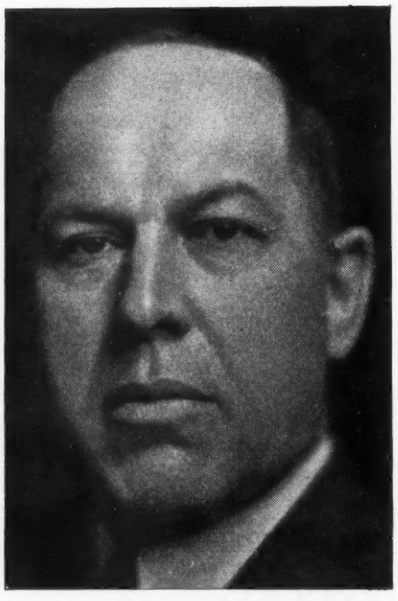
12:00 p.m.—Junior Chamber of Commerce, Young Oil Men's luncheon, Chamber of Commerce dining room, 4th floor Tulsa building.

1:30 p.m.—Junior Chamber of Commerce, Young Oil Men's trip to Beggs, Oklahoma, for Seismograph demonstration through courtesy of Seismograph Corporation.
Dinner for foreign delegates.

6:00 p.m.—Purchasing Agents Association of Tulsa and Oil Company Buyers Group of of the National Association of Purchasing Agents, Tulsa Club.

6:30 p.m.—Band Concert, Exposition grounds.

8:30 p.m.—Junior Chamber of Commerce Young Oil Men's Dance, Crystal Ball Room, Mayo Hotel, 16th floor.



W. G. SKELLY
President, International Petroleum Exposition

Wednesday, May 20

Marketers Day, R. W. McDowell, Mid-Continent Petroleum Corporation, host.

Directors for the Day: Fred W. Insull, Roy B. Jones, P. C. Lauinger, Clarel B. Mapes, Joseph R. McGraw, D. F. McMahon, Walter Miller, E. H. Moore, and William D. Moorer.

In honor of: Texas, Louisiana—Midland, Amarillo, Houston, Fort Worth, Dallas, San Antonio, Monroe, Longview, Tyler, Shreveport, Kilgore, Oklahoma City.

8:00 a.m.—Golf tournament opens, Tulsa Country Club, Frank Gray, chairman.

9:30 a.m.—Exposition gates open.

12:00 noon—Luncheons: American Business Club, Alvin Hotel; Co-operative Club, Chamber of Commerce; Engineers Club of Tulsa, Brittings; Lyons Club, Mayo Hotel; Optimist Club, Tulsa Hotel; Rotary luncheon for foreign delegates, Tulsa Hotel.

6:30 p.m.—Band Concert, Exposition grounds.

8:45 p.m.—Oil fire demonstration, Tulsa State Fair grounds.

Thursday, May 21

Drilling Contractors Day, A. O. Olson, President Olson Drilling Company, host.

Directors for the Day: C. Morris, W. J. Morris, E. J. Nicklos, C. H. Pape, George Parker, E. B. Parriott, A. W. Peake, J. Edgar Pew, and Henry L. Phillips.

In honor of: Colorado, Arkansas, Illinois—Denver, Eldorado, Casey, Robinson.

8:00 a.m.—Golf tournament, Tulsa Country Club.

9:00 a.m.—Exposition gates open.

9:00 a.m.—Independent Petroleum Association of America, Mayo Hotel.

10:00 a.m.—Independent Petroleum Association of America, Mayo Hotel.

9:30 to 4:30 Safety Conference, Topaz room, Tulsa Hotel.

12:00 noon—Luncheons: Cosmopolitan Club, Tulsa Hotel; Hi-Twelve, Tulsa Hotel; Tulsa Geological Society, Chamber of Commerce.

12:30 P.m.—Independent Petroleum Association of America, Directors luncheon and meeting, Mayo Hotel.

1:30 p.m.—Awarding of medals to "Old Timers," Exposition grounds.

2:00 p.m.—Independent Petroleum Association of America, meeting Executive Committee, Mayo Hotel.

6:00 p.m.—Independent Petroleum Association of America, Reception.

6:30 p.m.—Band Concert, Exposition grounds.

7:00 p.m.—Independent Petroleum Association of America, Banquet, Mayo Hotel.

Friday, May 22

Oil Scouts and Geologists Day, W. R. Francisco, Deep Rock Oil Company, host.

Directors for the Day: Waite Phillips, Warren C. Platt, F. O. Prior, Edward E. Robbins, Harry H. Rogers, E. J. Salrin, J. H. Satterwhite, W. A. Schlueter and E. J. Sadler.

In honor of: Wyoming, New Mexico—Casper, Gallup, Roswell, Carlsbad.

8:00 a.m.—Golf finals, Tulsa Country Club.

8:30 a.m.—Exposition gates open.

10:00 a.m.—Tour of exhibits at Exposition grounds by Safety group.
National Stripper Well Association.

12:00 noon—Luncheons: Chamber of Commerce Tulsa building. Special Exposition program.

2:00 p.m.—First Aid Contest, demonstration, Exposition grounds.

6:30 p.m.—Band Concert, Exposition grounds.

7:30 p.m.—First Aid Meet Banquet, and awarding of medals, Topaz room, Tulsa Hotel.

Saturday, May 23

General Oil Industry Day, E. B. Reeser, President Barnsdall Oil Corporation, host.

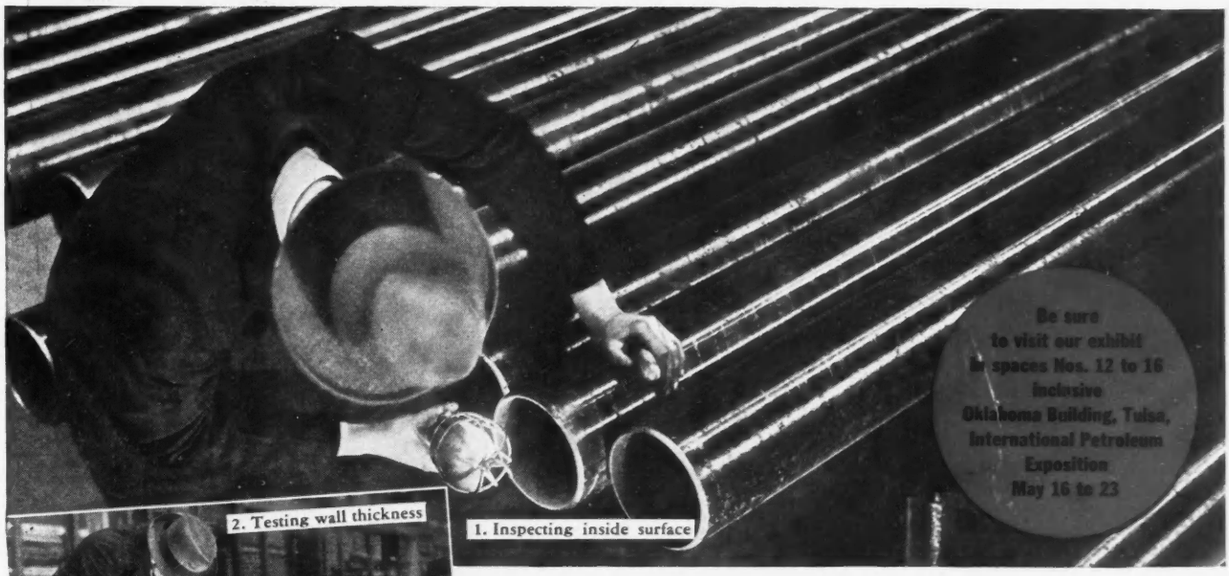
Directors for the Day: R. C. Sharp, J. S. Sidwell, Earl Sneed, Hugh Stalcup, O. C. Staples, Jay P. Walker, M. F. Water, T. R. Weymouth, and H. C. Weiss.

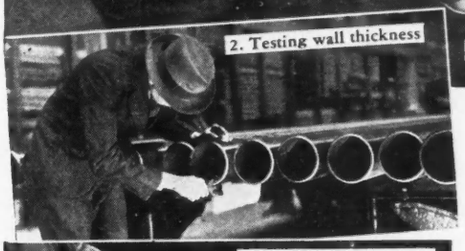
In honor of: Montana, Mississippi, New York—Great Falls, Billings, Jackson, Olean, Corning.

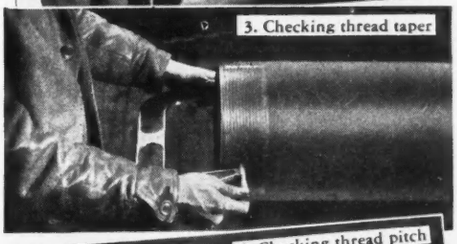
9:30 a.m.—Exposition gates open.

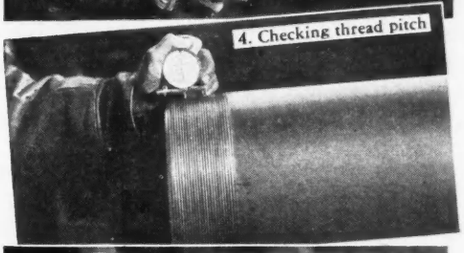
6:30 p.m.—Band Concert, Exposition grounds.

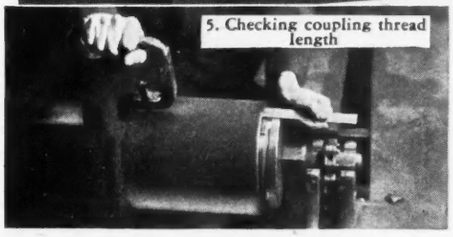
6:30 p.m.—Petroleum Group of Oklahoma Section, American Chemical Society, Alvin Hotel.











Other J & L products for the petroleum industry include: steel for derricks and other structural purposes; tin and manufacturing terne plate for containers; tank barges; and bars, shapes, plates, steel piling, concrete reinforcing bars, seamless steel boiler tubes, wire and nails, for maintenance, construction and repairs.

Every SIXTH MAN works for you . . . Checking and Inspecting J&L PIPE Quality

When you specify J & L Seamless Steel Pipe you are sure of uniform high quality because every sixth man in the J & L Seamless Tube Department is really *your* man. He works for you, as truly as though he were on your own payroll.

Five men out of every six work for quality—quality in line with J & L's high standards. The sixth man checks and inspects J & L pipe to make sure that you get that quality. At the left, are shown a few of the many careful tests and inspections that safeguard J & L pipe quality for users.

This sixth man is one of the big reasons why the J & L mark on pipe is your complete assurance of uniform quality, dependable service and long-time satisfaction. He is one of the big reasons why pipe users throughout the entire petroleum industry look to J & L for all their casing, tubing, drill pipe and line pipe requirements.

Specify J & L Seamless for maximum satisfaction in casing, tubing, drill pipe and line pipe.

The J & L Warehouse at Memphis carries, under cover, large and diversified stocks of oil country tubular products ready for immediate shipment for Mid-Continent, Southwestern and Gulf Coast regions. Also, J & L distributors maintain large stocks at strategic points in these fields and in California.

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
PITTSBURGH, PENNSYLVANIA

J&L PIPE

J&L SEAMLESS

DRILL PIPE · CASING · TUBING · LINE PIPE

J&L STEEL

Watch for
These Signs
at the OIL SHOW

Most of the new equipment on display at the International Petroleum Exposition at Tulsa is described in detail in the

1936 Composite Catalog

This little sign, which you will find on almost every booth, indicates that the exhibitor has up-to-the-minute information on his products cataloged where it is instantly available to you.

Study the equipment at the show and use your Composite Catalog to refresh your memory on your return home.

The following is a list of Composite Catalog users who are exhibiting in Tulsa.

ALEXANDER ANDERSON, Inc.
ALLIS-CHALMERS MFG. CO. (Motor Div.)
ALLIS-CHALMERS MFG. CO. (Tractor Div.)
ALLSTEEL PRODUCTS MFG. CO.
AMERICAN AIR FILTER CO., Inc.
AMERICAN BRASS CO., THE
AMERICAN BRIDGE CO.
AMERICAN HAMMERED PISTON RING CO.
AMERICAN IRON & MACHINE WORKS CO.
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ARROWHEAD IRON WORKS, Inc.
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BRODERICK & BASCOM ROPE CO.
BROWN INSTRUMENT CO.
BUCKEYE TRACTION DITCHER CO., THE
BUDA CO., THE
BUFFALO GASOLENE MOTOR CO.
BYRON JACKSON CO.
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CHAIN BELT CO.
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CHICAGO BRIDGE & IRON WORKS
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CHIKSAN OIL TOOL CO., Ltd.
CLARK BROS. CO.
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COOPER-BESSEMER CORP., THE
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The Gulf Publishing Company, Houston, Texas

Market Is Heavy

TANK CAR PRICES ARE LOWER IN PARTS OF MID-CONTINENT

HEAVINESS in the markets has persisted, despite the fact that more than half the spring has elapsed. Milder weather prevailed last week, and there was some increase in gasoline movement in various areas. But the weakness of both the gasoline and kerosene price structures, noted the week before, still was prevailing. In the Mid-Continent, price shading finally has caused minimum prices of low octane gasoline and of kerosene to be marked down one eighth cent generally.

The gasoline market obviously is reflecting the unusually large inventories that the industry has on hand. Nor is the situation being improved much. For the week ended May 2, latest period on which figures are available, the American Petroleum Institute reported that the stocks of finished and unfinished gasoline increased 427,000 barrels to a total of 72,964,000 barrels. In the meantime, crude runs to stills continued unchanged at 2,875,000 barrels daily.

Hopes for higher crude oil prices in the near future have practically disappeared, in view of the persisting realtively poor performance of the markets for the refined products. Contributing to the squelching of the hopes for the further crude price increases, there have been statements lately by at least two major company executives giving the opinion that the crude postings at present are as high as existing conditions and the immediate outlook justify.

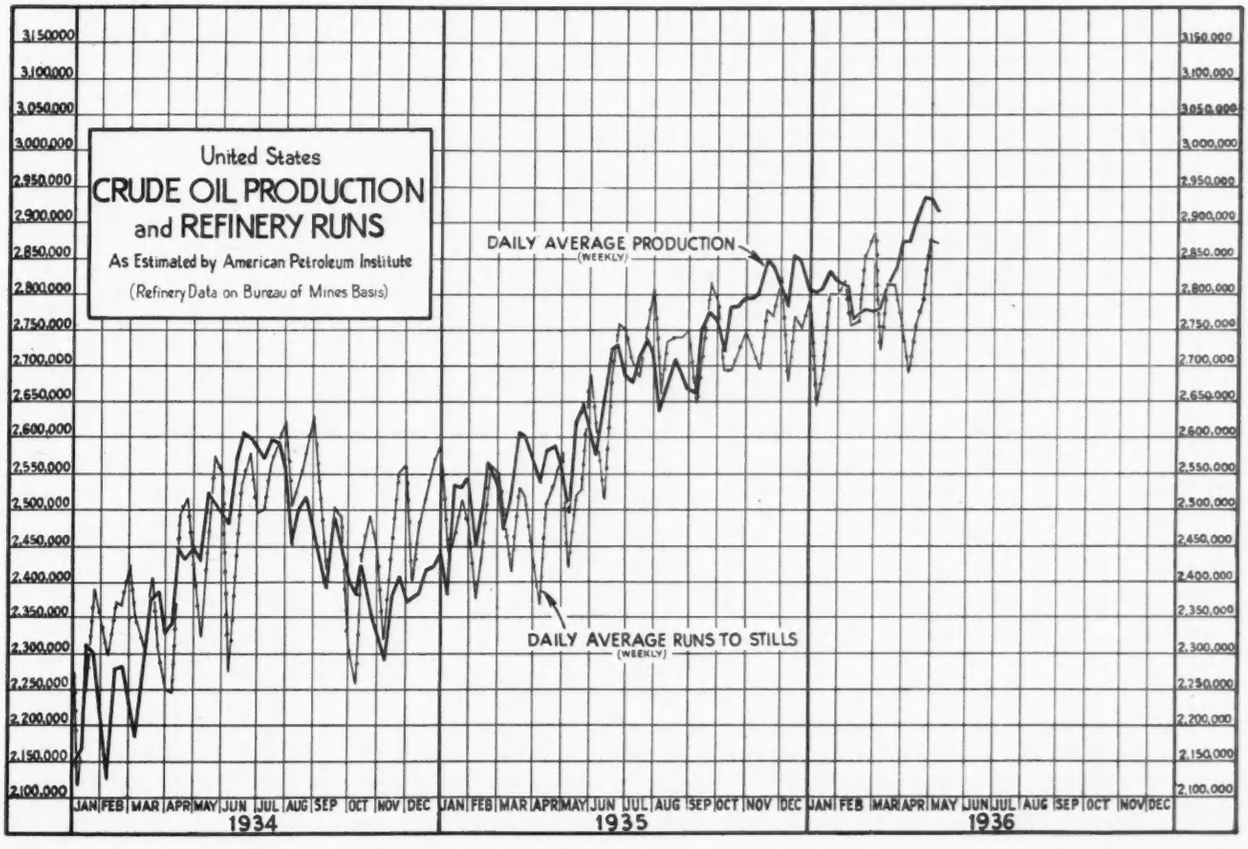
Gasoline Prices Sag

In the Chicago territory there were free offerings at the middle of last week of low octane gasolines at prices one eighth cent lower than regularly quoted a week previously. The third grade gasoline, 62 octane and below, from East Texas and Oklahoma, was readily available at 4⅞ cents a gallon, while still lower prices prevailed on gasoline made from Rodessa crude, which has unusually low octane rating. The range on the East Texas-Oklahoma third grade was from the 4⅞ cents to 5⅛ cents, and on the 63-70 octane from 5¼ to 5¾ cents. Those maximum prices prevailed previously, but as noted, the minimum prices were down an eighth cent. The 68 to 70 octane gasoline was unchanged from the previous week within a range of 5¾ to 6⅛ cents.

The weakness of the gasoline market that prevailed in the Chicago district finally pulled prices down also in the Oklahoma district by the middle of the week, the minimum quotations on lower octane materials coming down one eighth cent. At some of the Oklahoma refineries the third grade U. S. motor gasoline, below 62 octane, could be bought for 4⅞ cents a gallon, particularly in areas where there was competition with prices prevailing in the Chicago region. In less competitive sections of Oklahoma refiners were holding to the 5-cent minimum price. The 63 to 67 octane gasoline at the Oklahoma plants was priced at 5½ to 5¾ cents a gallon, having declined an eighth cent from the previous week. The 68 to 70 octane gasoline was holding at 6 to 6¼ cents. In North Texas the three grades of U. S. motor gasoline late last week were as follows: 5 to 5⅛ cents, 5⅝ to 5¾ cents, and 6 to 6⅛ cents.

Prices Shaded in East Texas

At East Texas refineries efforts were being made to hold the usual product, third grade U. S. motor gasoline, to the 5-cent price, as regards the fully tender-



able material. But there was some shading of that price by one eighth cent. The major companies still are buying about 175 tank cars per week in East Texas, but several hundred or more surplus cars are on the hands of the independents, and have resulted in the price shading. There is not much hot material going out of East Texas, but stuff that must move by trucks in absence of the required clearance papers is priced at 4 to 4¼ cents a gallon.

The heaviness of the markets is attributed generally to the surplus stocks of finished motor fuel, and it is believed that considerable trouble lies ahead, unless immediate steps are taken to curb production of gasoline. The situation is particularly unfortunate, it is felt, since this weakness of the gasoline markets is occurring at the beginning of the big consuming period.

Kerosene Market Slow

As in the case of gasoline, last week brought continued easiness of the kerosene market, with offerings more plentiful than orders. In the Chicago market, top prices were the same as in the previous week, but the minimum quotations had lost a point. The 41-43 water white kerosene in that district was selling at 4⅛ to 4⅜ cents a gallon, while the 42-44 water white grade was within a 4¼ to 4½ cent price range. Kerosene from both Louisiana and East Texas tended to drag the market down. At Oklahoma refineries the prices were holding to 4¼ to 4⅜ cents for the 41-43 water white and 4½ to 4⅝ cents for the 42-44 grade.

California Conditions Good

In the Pacific Coast region recent improvement has put the markets generally in the best condition for many months. There are a few weak spots in Southern California, but that district has been especially susceptible to market disturbances for several years. Independent stations there continue to undersell major company stations from 1 to 3 cents a gallon, and rumors are current that secondary companies, so-called affiliates of the majors, are cutting prices to some extent. It is believed, however, that the situation is not as bad as some of the rumors indicate.

Crude production in California is running around 25,000 barrels a day in excess of the state allowable, but there is not apparent any great anxiety over that excess, which is at least favorable in comparison with the large excesses prior to February 1. Although drilling activity is on the increase, no new fields of major importance have been uncovered for a long time. New and small areas are being proved, but there is no big gas production and the wells are small. This makes for a stable crude oil market.

Natural gasoline is comparatively scarce on the West Coast, and stocks now are being drawn upon. It is impossible to buy any natural gasoline in the open market at less than 8 cents a gallon, and one report indicated some gasoline changed hands late in April at 8¼ cents a gallon. High natural gasoline prices and present crude oil prices do not encourage independent refiners to attempt to sell gasoline at prices that might tend to pull down the markets.

East Texas Tank Car Shipments

Week Ending May 3, 1936

PRODUCTS	No. Cars	Estimated Gallons
Gasoline	567	4,629,917
Fuel Oil	264	2,485,778
Casinghead Gasoline	204	1,679,494
Distillate	65	518,026
Gas Oil	36	291,282
Kerosene	33	260,867
Residuum	7	56,658
Topped Crude	6	48,811
Crude Oil	3	28,490
Naphtha	1	8,052
Total	1,186	10,007,375
Total Previous Week	1,103	9,574,406
Interstate	404	.....
Intrastate	401	.....
Coastwise	381	.....
Total	1,186	.....

OIL MARKET BAD

South Texas pipe lines are being over-burdened

AUSTIN.

MAGNOLIA Petroleum Company, at a hearing before the Texas Railroad Commission Thursday, urged the railroad commission to reduce southwest Texas allowables. Magnolia Petroleum Company officials stated that their pipe line was operating at capacity but still could not handle 5000 barrels of allowable oil to which the line is connected.

Testimony of other pipe line officials indicated that Humble Pipe Line Company will be similarly situated by May 15, and that there remained but one outlet, Duval Pipe Line Company, which will not be operating at capacity by that time. This line has available capacity for the movement of 3500 barrels of additional oil, but has no market for the production.

Because there are no railroads into the area sufficiently near to furnish transportation facilities, the pipe line is the only method of transporting oil that is practical.

Independent operators present at the hearing protested against the 7½ cent gathering charge made by Magnolia Petroleum Company, and pointed out that the other lines charged only five cents. They declined, however, to ask the railroad commission to set a hearing for the purpose of determining a proper gathering rate.

Government Wells, Loma Novia, and Seven Sisters are the principal fields that would be affected by any reduction the commission might order. It is possible that the question may be more extensively investigated at the state-wide proration hearing on May 14.

EDWARD M. FREEMAN, assistant to the vice president of The Texas Company, Houston, will speak on the subject of oil at the Foreign Trade Conference to be held at the Rice Hotel, Houston, May 22.

Summary of Wells Completed in the United States

Week Ending May 9, 1936

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1936	Total Completions this date 1935
Alabama	....	....	....	....	.....	2	3
Arkansas	1	....	....	1	.....	31	67
California	10	6	1	3	6,923	315	274
Colorado	....	....	....	....	.....	5	5
Illinois	....	....	....	....	.....	4	8
Indiana	....	....	....	....	.....	87	63
Kansas	30	17	2	11	80,818	528	522
Kentucky	8	5	....	3	415	85	58
Louisiana	25	13	2	10	34,711	354	265
Michigan	15	8	4	3	905	243	139
Mississippi	1	....	....	1	.....	2	7
Montana	3	3	....	....	323	34	24
New Mexico	10	10	....	....	25,303	172	99
New York	....	....	....	....	.....	....	....
Ohio	41	12	19	10	267	706	523
Oklahoma	40	27	2	11	28,368	922	837
Pennsylvania	....	....	....	....	.....	....	51
Texas	275	194	7	74	279,887	4,229	4,250
Utah	....	....	....	....	.....	....	....
West Virginia	21	3	16	2	19	253	166
Wyoming	....	....	....	....	.....	16	16
Total this week	480	298	53	129	457,939	7,987	7,358
Total last week	500	350	42	108	391,816	....	....
Total this year	7,987	5,284	821	1,882	7,734,171	....	....

Comparison of Permits Granted for New Wells

STATE	Week Ending May 9	Total this Mo.	Total this Year	Total this Date Last Year	1935 Year Total
Arkansas	3	6	33	55	100
California	26	40	325	331	629
Louisiana	17	45	430	320	799
Kansas	45	89	648	520	1,015
Michigan	18	35	221	171	460
Oklahoma	47	147	799	829	2,045
Texas	429	663	4,838	4,802	10,550
Total	585	1,020	7,571	7,028	15,598

CRUDE OUTPUT UP

Increase sends output above demand

UNITED STATES crude oil production for the past week, ended May 9, averaged 2,931,575 barrels daily. It was 21,550 barrels a day higher than in the previous week, and 105,275 barrels per day above the average recommended for May by the Bureau of Mines.

The higher production for last week as compared with the week before was the net result of increased output in Texas, California, and Oklahoma; while there were decreases for Kansas and Louisiana.

Texas production rose to 1,157,000 barrels a day, or about 3000 barrels a day higher than in the previous week. The state's allocation on the May schedule of the Bureau of Mines was 1,132,500 barrels daily, and hence the excess last week was about 25,000 barrels per day.

California Increases

California followed the usual pattern of showing a material increase at the opening of the month. It is customary for the state to cut output back similarly, however, later in the month. The state's production last week averaged 583,500 barrels daily, or about 20,000 barrels a day more than in the previous week. The new rate of output was about 40,000 barrels a day above the Bureau of Mines allocation of 544,000 barrels daily for May.

Oklahoma last week averaged 537,825 barrels a day, or about 5000 barrels daily more than in the previous week, but was within the federal allocation of 538,300 barrels daily.

Kansas production declined last week to 155,200 barrels a day from 162,625 barrels daily the previous week, a decrease of about 7000 barrels, but was still not quite within the federal quota of 150,100 barrels daily.

Louisiana crude production last week declined 500 barrels a day, to 214,800 barrels daily, but was still more excessive above the federal schedule than the output for any other state. The surplus was 44,300 barrels a day, as Louisiana's allocation for May was 170,500 barrels daily.

SKELLY MEETING

TULSA.

ADJOURNED to June 1 was the scheduled Skelly Oil Company stockholders' meeting at Tulsa, May 3. The meeting was called for the purpose of authorizing a new issue of preferred stock to be used to refund the company's outstanding 6 percent preferred stock, on which accumulated dividends amounted to $30 a share as of April 30. Reason for the postponement was the recent unfavorable change in market conditions. It will not be possible consequently to redeem the present 6 percent preferred on August 1, 1936.

Directors of the company have declared a dividend of $1.50 a share on the present preferred stock, payable August 1 to stockholders of record July 1.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING May 9	May 2
TEXAS—		
Texas Panhandle	64,300	61,300
North Texas	59,500	59,400
West Central Texas	25,000	25,000
West Texas	181,200	180,700
East Central Texas	50,600	50,900
*East Texas Field	448,100	448,500
†South Texas	80,700	79,500
†Texas Gulf Coast	247,600	248,600
*Total Texas	1,157,000	1,153,900
OKLAHOMA—		
Oklahoma City	127,950	121,200
Seminole Area	140,550	143,700
Tatums	3,500	3,500
Lucien	13,500	13,250
Fitts	54,625	52,675
Edmond	10,925	13,425
Others	186,775	184,250
Total Oklahoma	537,825	532,000
KANSAS—		
Ritz-Canton	6,725	6,675
Voshell	3,325	3,300
Nikkel-Hollow	4,625	4,600
Sedgwick	5,725	5,625
Burrton-Haury	14,100	13,675
Lorraine	6,475	8,675
Oxford	7,650	7,575
Others	106,575	112,500
Total Kansas	155,200	162,625
LOUISIANA—		
North Louisiana	68,600	70,100
Louisiana Gulf Coast	146,200	145,200
Total Louisiana	214,800	215,300
ARKANSAS	29,950	29,900
CALIFORNIA—		
Long Beach	68,200	67,000
Santa Fe Springs	45,100	43,000
Huntington Beach	36,300	35,000
Dominguez	24,800	27,500
Inglewood	12,100	11,000
Ventura Avenue	33,100	33,000
Seal Beach	9,600	7,200
Midway-Sunset	60,000	54,000
Elwood	12,600	12,300
Kettleman Hills	79,900	80,000
Mountain View	27,600	27,000
Playa del Rey	14,100	13,700
Others	160,100	153,300
Total California	583,500	564,000
MOUNTAIN STATES—		
Wyoming	35,700	34,800
Montana	10,400	10,800
Colorado	4,300	5,300
Total Rocky Mountain States	50,400	50,900
NEW MEXICO	63,600	63,600
EASTERN STATES	105,800	104,400
MICHIGAN	33,500	33,400
*Total United States	2,931,575	2,910,025
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	15,000	15,000
Grand Total, including surreptitious production	2,946,575	2,925,025

†Coastal section of South Texas is included with Texas Gulf Coast.

Crude Runs to Stills; Stocks of Finished and Unfinished Gasoline and Gas and Fuel Oil, and Cracked Gasoline Production, Week Ended May 2, 1936

(Figures in thousands of barrels of 42 gallons each as reported to American Petroleum Institute)

DISTRICT	Daily Refining Capacity			Crude Runs to Stills		Stocks of Finished and Unfinished Gasoline				Stocks of Gas and Fuel Oil			Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
		Reporting				Finished								Reporting		
	Potential Rate	Total	%	Daily Average	% Operated	At Refineries	Terms. Trans. Pipe Lines	Unfinished in Naphtha Distillates	Total Finished and Unfinished	Gas Oil & Distillate	Residual Fuel Oil	Total	Potential Rate	Total	%	Daily Average
East Coast	612	612	100.0	505	82.5	7,652	11,797	1,017	20,466	2,918	4,043	6,961	534	534	100.0	101
Appalachian	154	146	94.8	94	64.4	1,470	1,019	276	2,765	201	189	390	79	78	98.7	27
Ind., Ill., Ky.	442	424	95.9	404	95.3	7,989	2,395	986	11,370	1,183	1,766	2,949	349	348	99.7	134
Okla., Kans., Mo.	453	384	84.8	276	71.9	4,637	2,363	710	7,710	494	2,006	2,500	256	228	89.1	67
Inland Texas	330	160	48.5	90	56.3	1,290	146	226	1,662	231	1,401	1,632	148	105	70.9	23
Texas Gulf	680	658	96.8	596	90.6	5,872	224	2,013	8,109	2,912	3,338	6,250	399	393	78.5	142
Louisiana Gulf	169	163	96.4	115	70.6	1,355	420	176	1,951	990	1,049	2,039	77	74	96.1	22
North La.-Ark.	80	72	90.0	49	68.1	224	71	115	410	35	305	340	46	44	95.7	9
Rocky Mountain	97	60	61.9	41	68.3	1,520	.....	104	1,624	154	598	752	46	39	84.8	9
California	852	789	92.6	509	64.5	9,266	2,460	1,045	12,771	.....	.....	70,989	280	280	100.0	61
Reported	....	3,468	89.6	2,679	77.2	41,275	20,895	6,668	68,838	.....	.....	94,802	....	2,123	95.9	595
Estimated Unreported	....	401	.....	196	.....	2,573	1,106	447	4,126	.....	.....	1,907	....	91	.....	35
*Estimated Total U.S. May 2, 1936	3,869	3,869	.....	2,875	.....	43,848	22,001	7,115	72,964	.....	.....	96,709	2,214	2,214	.....	630
*Estimated Total U.S. April 25, 1936	3,869	3,869	.....	2,875	.....	44,217	21,100	7,220	72,537	.....	.....	96,802	2,214	2,214	.....	615
U. S. B. of M., April, 1935	....	....	.....	2,502	.....	†37,867	†20,351	†6,175	†64,393	.....	.....	†97,727	....	....	.....	520

* Bureau of Mines basis currently estimated. † As of April 30, 1936.

Results Better

[*Continued from page 12*]

ported net income of $3259, equal to 2 cents a share on 150,000 shares of 8 percent cumulative preferred stock, of $100 par value, on which there were arrears of $112 per share, or $16,800,000 on December 31, 1935. This compares with net loss in 1934 of $99,392.

Cities Service Company reported for 1935 net income after all prior charges applicable to stocks of Cities Service of $5,856,265, compared with $53,440 in 1934.

Creole Petroleum Corporation (controlled by Standard of New Jersey) for 1935 reported net profit of $5,509,067, or 79 cents a share outstanding, compared with $5,315,254 or 76 cents a share in 1934. The company operates in Venezuela.

Oil Operations Widened

United Gas Public Service Company for 1935 reported that net income carried to earned surplus, after interest, depletion, and other charges, was $3,293,266, compared with $3,207,934 in 1934. About 90 percent of the 1935 total revenue was from natural gas sales, but substantial oil reserves have been under development for several years in the Refugio and Pettus fields in South Texas, and the system now is developing what promises to be a major oil reserve in the Rodessa field, northern Louisiana and northeastern Texas.

Socony-Vacuum Oil Company, Inc., reported that for 1935 consolidated net income was $22,525,892, after deduction of $44,103,114 for depreciation, depletion, amortization, intangible development costs, and self-carried insurance premiums, in addition to a non-recurring charge of $2,864,796 representing unamortized discount and premiums paid on bonds retired during the year, and after a charge to provide a reserve of $500,000 for future loss on foreign exchange in countries with exchange restrictions. The net income for 1935 was equivalent to 71 cents per share, compared with 76 cents a share for 1934.

Standard Oil Company of California reported that in 1935 the net profit amounted to $18,594,330 or $1.42 a share of issued capital stock, as compared with $18,327,807 or $1.40 a share in 1934. Sales volume was about the same as in 1934.

For 1935 Skelly Oil Company reported net income of $2,845,849. There was for the year an earned surplus of $2,585,849, after making allowance of $260,000 for payment of income taxes. Of the company's common stock 55.4 percent is owned by Mission Corporation, which in turn is controlled by Standard Oil Company (New Jersey), owner of all Mission's 1,399,345 outstanding shares of common stock.

SMALL OIL PRODUCTION

Commission allowable in March is not exceeded

Austin.—Production of 34,725,565 barrels of oil during the month of March has been reported by the Oil Accounting Bureau of the Texas Railroad Commission. The total allowable for the month was 35,522,985 barrels.

The production, as determined by the bureau, is derived from reports of producers at the end of the month. From these reports the bureau found that there was produced 797,420 barrels of oil less than commission orders permitted.

The daily average production was 1,120,179 barrels, approximately 25,000 barrels less than the allowable, and about 40,000 barrels per day higher than the February production.

The commission found that there were 61,073 producing wells in the state of which 23,152 are flowing and 36,921 are pumping wells. These wells are located on leases which include 2,103,491 acres.

Lease storage increased 86,628 barrels to 3,771,932 barrels during the course of the month.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to May 8, 1936)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$0.94	2¢	40—$1.18	1- 9-36
N. and N.-C. Texas	28— .84	2¢	40— 1.08	1- 9-36
Texas Panhandle				
Gray County	34— .86	2¢	40— .98	1- 9-36
Carson-Hutchinson	34— .81	2¢	40— .93	1- 9-36
West Texas				
Ector, Pecos, W'kler Crane, Upton, Howard and Glasscock	29— .76	2¢	36— .90	1-14-36
West Central Texas	28— .84	2¢	40— 1.08	1- 9-36
East Central Texas	28— .91	2¢	40— 1.15	1- 9-36
East Texas	*1.15			1- 9-36
Talco	* .60			4-15-36
Texas Gulf Coast				
Anahuac-Dickinson	30— 1.04	2¢	40— 1.24	1- 9-36
Conroe	35— 1.24	2¢	40— 1.34	1- 9-36
Tomball	*1.30			1- 9-36
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbe Ridge	Below 17— .88	2¢	34— 1.22	1- 9-36
South and S. W. Texas	Below			
Refugio (Light)	17— .88	2¢	34— 1.22	1- 9-36
Refugio (Heavy)	* .90			1- 9-36
Saxet	* .90			1- 9-36
Mirando	* .85			1- 9-36
Pettus	*1.25			1- 9-36
Salt Flat	* .97			1-14-36
Darst Creek	* .97			1-14-36
Port Lavaca	* .97			
Plymouth	* .90			12-17-35
Arkansas				
El Dorado (Light) and Rainbow	25— .78	2¢	40— 1.10	1-10-36
El Dorado East Field and Smackover	* .75			1-10-36

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	25—$0.78	2¢	40—$1.10	1-10-36
Urania	* .97			1-10-36
South Louisiana	Below			
Lockport	19— .92	2¢	34— 1.22	1- 9-36
Iowa, Cameron Mds.	Below 19— .82	2¢	34— 1.12	1- 9-36
Rocky Mountain States				
Salt Creek	29— .94	2¢	40— 1.15	1-10-36
Elk Basin	*1.28			1- 9-36
Grass Creek (Light)	*1.28			1- 9-36
Grass Creek (Heavy)	* .58			1- 9-36
Big Muddy	*1.11			1- 9-36
Rock Creek	*1.12			1- 9-36
Sunburst	*1.25			1- 9-36
Lance Creek	* .90			1- 9-36
Osage	*1.08			
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.25			1-10-36
Illinois	*1.23			1- 9-36
Princeton	*1.23			1- 9-36
Western Kentucky	*1.23			1- 9-36
Pennsylvania				
Bradford	*2.45			1-13-36
Sw. Pa. Pipe Line	*2.17			1-13-36
Eureka Pipe Line	*2.12			1-13-36
Buckeye Pipe Line	*1.97			1-13-36
Corning Grade	*1.42			1-13-36
Michigan				
Central Michigan	*1.32			1-14-36
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.
‡ Average price, all oil sales being to small refineries.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid.-Cont. (36 Gr.)	Calif. (26 Gr.)
June 19, 1933	Up 10	Up 19	
June 26, 1933	Up 10	.....	Up 9-13
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Cut °4′
September 6, 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Up °28
November 18, 1935	Up 15	.....	Up °9
December 6, 1935	.....	.....	.....
January 9, 1936	.....	Up 10	.....
January 13, 1936	Up 15	.....	.....
February 26, 1936	.....	.....	Up ′5

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Two percent of gross value at well and ⅜ of 1c per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

* All gravities—flat rate.
° Signal Hill 26 gravity.
′ Seal Beach 26 gravity.

CALIFORNIA OIL PRICES

(All gravities above those quoted take highest prices of that field. Effective February 26, 1936)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canyon	Athens Rosecrans	Elwood Terrace	Torrance	Richfield	Whittier East Coyote La Habra	Montebello	West Coyote Hills	Santa Fe Springs	New Hall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.80	$.79	$.78	$.79	$.80	$.76	.....	.....	$.80	$.76	$.76	$.77	$.78	.....	$.70	.....	$.70	$.70	$.70	.....
15-15.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
16-16.9	.80	.79	.78	.79	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
17-17.9	.80	.79	.78	.81	.80	.76	.....	.....	.80	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
18-18.9	.80	.79	.78	.84	.80	.78	.....	.....	.82	.76	.76	.77	.78	.....	.70	.....	.70	.70	.70	.....
19-19.9	.82	.79	.82	.87	.84	.81	.....	.....	.85	.76	.78	.77	.78	.....	.70	$.70	.74	.74	.71	$.70
20-20.9	.85	.79	.85	.90	.88	.84	.....	.....	.88	.78	.82	.77	.80	.....	.....	.70	.78	.78	.72	.70
21-21.9	.88	.79	.89	.93	.93	.88	.....	.....	.91	.80	.85	.77	.84	.78	.....	.73	.82	.82	.74	.70
22-22.9	.92	.82	.92	.96	.98	.92	.....	.....	.93	.84	.89	.79	.88	.78	.....	.77	.87	.86	.78	.72
23-23.9	.95	.86	.96	.99	1.02	.96	$.84	.....	.96	.88	.93	.82	.92	.78	.....	.80	.92	.90	.82	.76
24-24.9	.99	.91	1.00	1.02	1.06	.99	.88	.....	.99	.91	.96	.85	.96	.82	.....	.84	.97	.94	.86	.79
25-25.9	1.03	.95	1.03	1.05	1.11	1.03	.93	.....	1.02	.95	.....	.89	.99	.86	.....	.88	1.01	.98	.90	.83
26-26.9	1.06	1.00	1.07	1.09	1.16	1.06	.98	.....	1.05	.98	.....	.92	1.03	.90	.....	.91	1.06	1.02	.....	.....
27-27.9	1.10	1.05	1.11	1.12	.....	1.10	1.03	.....	.....	1.02	.....	.96	1.06	.95	.....	.95	1.10	1.06	.....	.....
28-28.9	1.14	1.10	1.14	1.15	.....	1.14	1.07	.....	.....	1.06	.....	.99	1.10	.9½	.....	.99	1.15	1.10	.....	.....
29-29.9	1.17	1.15	1.18	1.18	F.O.B.	1.17	1.12	.....	.....	1.09	.....	1.03	1.14	1.08	.....	1.02	1.20	1.14	.....	.....
30-30.9	1.21	1.19	1.22	1.21	Pipe	1.21	1.17	F.O.B.	.....	.....	.....	1.07	1.17	1.08	.....	1.06	1.25	1.18	.....	.....
31-31.9	.....	.....	.....	1.24	Line	1.24	1.22	Shlp	Kettleman Hills			1.11	1.21	1.12	.....	1.09	1.29	.....	.....	.....
32-32.9	.....	.....	.....	1.27	.....	1.27	1.27	.....				1.14	1.25	1.16	.....	1.13	1.34	.....	.....	.....
33-33.9	.....	.....	.....	.....	.....	.....	1.32	$1.28	1.19			1.18	1.28	1.20	.....	1.17	1.38	.....	.....	.....
34-34.9	.....	.....	.....	.....	.....	.....	1.37	1.32	.....	1.23	.....	1.22	1.32	1.25	.....	1.20	.....	.....	.....	.....
35-35.9	.....	.....	.....	.....	.....	.....	1.42	1.35	.....	1.27	.....	1.25	.....	1.29	.....	.....	.....	.....	.....	.....
36-36.9	.....	.....	.....	.....	.....	.....	1.46	1.39	.....	1.31	.....	1.29	.....	1.33	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....	.....	1.51	1.43	.....	1.35	.....	1.32	.....	1.37	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....	.....	1.56	.....	.....	1.39	.....	1.36	.....	1.42	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....	.....	1.61	.....	.....	1.43	.....	1.40	.....	.....	.....	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....	.....	1.66	.....	.....	.....	.....	1.43	.....	.....	.....	.....	.....	.....	.....	.....

Edited by
WM. V. GROSS, Associate Editor

Western Australia

GEOLOGY AS REVEALED IN A LETTER FROM DR. WADE

Accumulations of petroleum must have been retained somewhere on the continent of Australia, and the discovery of such deposits is a matter of national urgency, according to a letter from Dr. Arthur Wade, petroleum geologist of Freney Kimberley Oil Company.

"I always try to keep a promise," says Dr. Wade's letter, "even if it takes some time, and I incorporate in this letter a brief description of the geology of the Kimberley region of Western Australia, in which we have been working for the past two years. If you want a map of the northern part of Western Australia any will do. They are all equally erroneous.

"We found reconnaissance flights very useful for geological and survey purposes, especially in unsettled and unknown country which is mostly desert, waterless, and only inhabited by roving tribes of aborigines.

"Very briefly, the geology of the Kimberly district, which forms the most northerly part of Western Australia and in which our party has spent the past two years in topographic and geological surveys on behalf of Freney Kimberley Oil Company, may be described as follows:

"To the north is a tract of very wild, unexplored, mountainous country, consisting of Pre-Cambrian rocks, gneisses and schists, granites and quartzites, both metamorphosed igneous and sedimentary rocks. Some time about the close of Pre-Cambrian, or early in Palaeozoic times, a great sag began to form in the southern part of this ancient land surface. Into the depression so formed the sea encroached and coral reefs developed around its margins. These are represented today by great thicknesses of Devonian limestones.

"At the close of the Devonian, uplift took place and a land surface may have been formed again. But by the close of the Carboniferous, depression recurred —not so pronounced this time.

The rest of the sediments which can be examined now consist, for the greater part, of shallow water deposits both marine, estuarine and fresh water, ranging in time through the Permian into the Jurassic.

"In the early part of this period of sedimentation, Antarctic conditions prevailed and glacial deposits, sometimes occurring as great beds of boulders, sometimes as tillites and boulder clays, bear evidence of climatic conditions which sharply contrast with the tropical heats of the present day.

"Later, the spread of more genial conditions is marked by the gradual increase of fossil vegetation with great profusion and variety of plants. Mangrove swamp types, as well as tree ferns, cycads, and araucarias indicate the rapid spreading of forests as the climate became warmer. Animal life responded equally well. Representatives of the lower forms are abundant, while traces of the higher animals are not lacking.

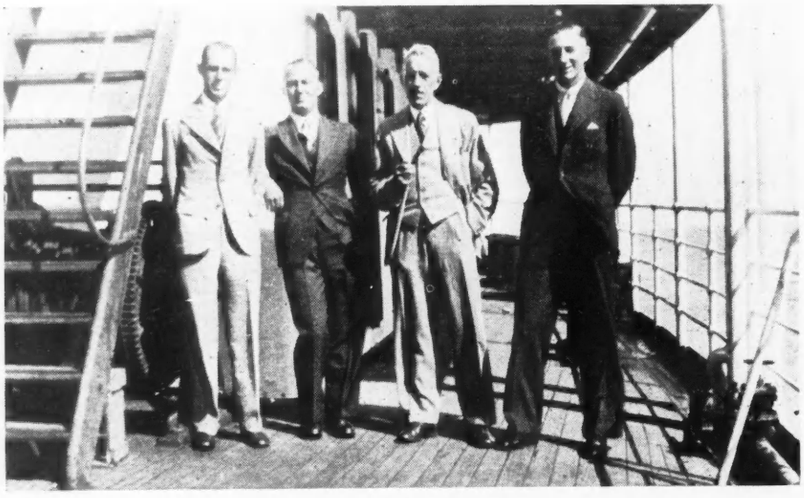
"Naturally, the quest for petroleum has been directed chiefly to the areas occupied by these later sediments and these occupy the basin drained by the Fitzroy River and its tributaries in the extreme northern part of Western Australia.

"In early Mesozoic times diastrophism, may be connected with the breaking up of the old southern continent of Gondwanaland, affected the strata resulting in two waves of crustal movement, one of which caused folding and faulting running from a little north of west to south of east and the other along lines which run more nearly north and south. Such cross movements have brought about doming of the strata and many structures so formed have been investigated and mapped.

"The search for oil in this area arose from the discovery, in the course of drilling for water, of weakly impregnated beds in the Devonian coral limestones on the margins of the depression. Viscous bitumen was also found filling the vesicles of basalts associated with fossiliferous Cambrian strata in an area to the northeast.

"A number of prospecting bores have been drilled during the past 15 to 20 years, and such showings of bitumen and oil as have been met with have led to the more intensive examination of the area upon which I and my party have been engaged.

"The opinion is widely held in Australia that accumulations of petroleum must have been retained somewhere on this continent and that the discovery of such deposits is a matter of national urgency."



Dr. Wade's party on return voyage to Perth from exploratory work in Western Australia. Left to right: Weatherburn, assistant surveyor; Waterford, chief surveyor; Dr. Wade; and A. Driscoll, assistant surveyor and geologist.

BARCO DEAL CLOSED

Rieber, Corwin, Brown and Ogarrio principals

Negotiations of Socony-Vacuum Corporation and The Texas Corporation for purchase of stock of South American Gulf Oil Company from Gulf Oil Corporation were successfully concluded May 4, and preparations for development of the Barco concession in Colombia, South America, will start at once.

As South American Gulf Oil Company owns 79 percent of the stock in Colombian Petroleum Company, which hold concession rights on 500,000 acres of the Barco concession, the two purchasing companies will control development there. The minority interest (about 21 percent) of Colombian Petroleum Company is owned by Carib Syndicate.

Immediately following consummation of the deal, directors were elected for South American Gulf Oil Company. T. Reiber, W. S. S. Rodgers, H. T. Klein and R. Ogarrio were given places on the board as representatives of The Texas Corporation, while J. A. Brown, A. F. Corwin, H. F. Sheets and G. V. Holton were appointed to represent Socony-Vacuum Corporation interests. They were also appointed directors of Colombian Petroleum Company. Board representatives of Carib Syndicate are Charles F. French and Harold J. Wasson.

Under the new arrangement, Brown will serve as chairman of South American Gulf Oil Company and Rieber will serve as president. Corwin will serve as chairman of the board of Colombian Petroleum Company, with R. Ogarrio serving as president. R. F. Baker and George E. Dorsey appear on the roster of the latter company as vice presidents.

The purchase agreement is that Socony-Vacuum Corporation and The Texas Corporation participate equally in the acquired property and will proceed at once with exploration and development of the territory.

Rieber, in a recent address to stockholders of The Texas Corporation, stated the corporation's participation in the deal obtaining controlling interest, along with Socony-Vacuum Corporation, in the Barco concession in Colombia was motivated by the condition requiring 40,000 barrels of oil daily to keep the corporation's foreign activities going.

GET SERVICE PINS

Twin state employes honored at Tulsa

Tulsa.—Service pins for all employes whose service is longer than 10 years were presented to those eligible in the ranks of Twin State Oil Company, May 6. The presentation was made by Jack Pew, Sun Oil Company, Dallas, at a dinner at the Tulsa country club. The parent company is making the presentations for its own personnel as well as that of subsidiaries.

Top honors for length of employment went to T. W. Parkin, vice president in charge of production, whose 35-year pin failed by four years to match his length of service with the company.

Pins designating 25 years of service went to Harry M. Johnson, district superintendent at Wichita, Kansas, and E. C. Stewart, treasurer.

In the 20-year division H. G. Biederman, accounting department; James E. Buckley, land department; John H. Catlett, production department; E. J. Gorman, vice president; Maurice D. Leahy, budget department.

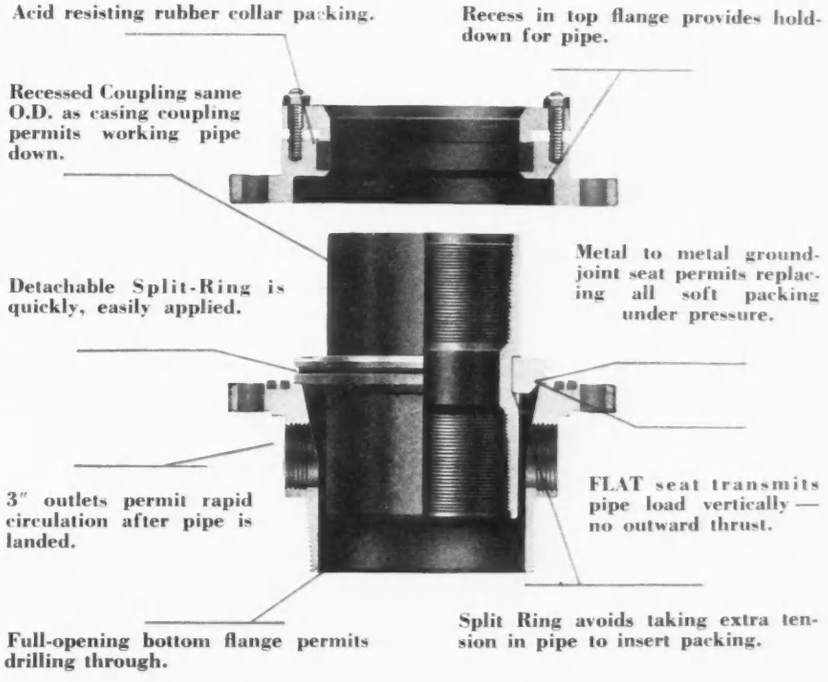
Buttons designating 15 years of service were received by Horace B. Arnold, chief clerk; William J. Ball, negro mail clerk; Homer W. Brown, accounting department; Roy E. Dunlap, land department; John R. Ellis, engineer; Gertrude H. Finch, assistant secretary; R. C. Harper and J. R. Kilburn, land department; Harry Lane, gas department; Clara B. Snyder, accounting department; J. J. Stephens, oil runs; C. F. Knollenberg, assistant superintendent.

The 10-year division was represented by George H. Bowen, counsel; Lula Chappell, accounting department; George W. Eads, material department; William H. Gray, land department; Horace L. Griley, geologist; Pearl Brown, legal department; L. W. Richardson, paymaster; Frederick T. Rogers, accounting department; William Telford, land department; A. F. Truex, head of the land department; Millard

It's Easy to See Here Why the

RECTORHEAD

is More than a mere Bradenhead


Acid resisting rubber collar packing.
Recess in top flange provides hold-down for pipe.
Recessed Coupling same O.D. as casing coupling permits working pipe down.
Detachable Split-Ring is quickly, easily applied.
Metal to metal ground-joint seat permits replacing all soft packing under pressure.
3" outlets permit rapid circulation after pipe is landed.
FLAT seat transmits pipe load vertically — no outward thrust.
Full-opening bottom flange permits drilling through.
Split Ring avoids taking extra tension in pipe to insert packing.

See the RECTORHEAD Exhibit at the Tulsa Oil Show

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New York, N. Y.

E. Watters, clerk; S. B. Woods, geologist; J. C. Wilson, transportation department; Guy E. Campbell, chief scout; Pearl L. Dennis, accounting department; Rubye Moore, land department; Edgar W. Morgan, geologist.

In the field force the Healdton district furnished the following: C. B. Evers, foreman at Graham; James W. Saverline, foreman at Healdton; W. E. Attebury, Joseph E. Boggess, Vernon E. Brandon, Walter C. Chilton, Daniel A. Fairchild, Charles M. French, Oscar L. Haley, Orville M. Hall, John H. Burt, William M. Jackson, James T. Johnson, Andrew W. Jones, George Lomas, Noah B. Martin, Emett L. Rice, C. M. Williams and J. R. Kilburn.

The Yale district had listed C. B. Gibson, foreman; T. A. Newton, foreman; E. W. Benedict, H. L. Board, Albert B. Byrd, Harley Byrd, Floyd L. Carpenter, George C. Durbin, Jennings B. Fielding, William L. Fielding, Ralph D. Glanders, Henry A. Brimm, Vern Harris, Ralph LaBrue, James D. McCarley, Thomas Q. Ricketts, Roy Ritchie, Samuel R. Selby, George R. Shelton, Thomas J. Simmons, Andrew W. True, James H. Vann, A. H. Wilcox, Fred Wood, Jess A. Wood.

The Seminole district drew Earl Hipsher, foreman; Harra C. Cox, Grig W. Dobbs, James B. Hughes, B. W. Proctor, Elisha S. Vitatoe.

Representatives of Sun Oil Company, Dallas, in addition to Pew, were J. L. Manes, head of the safety department; R. B. Kilmer, A. F. Altenau, V. F. Butcher, F. E. Heath, A. H. Horstmeier, G. F. Brown, W. P. Campion and C. D. Freeman.

BERNARD D. KANE, junior clerk in the production department of Continental Oil Company, has been transferred from Fort Worth to the New Mexico district office at Hobbs as stenographer and production clerk.

TAXES ON OIL

Again exceed sales value of output

Taxes levied upon the petroleum industry and its products in 1935 for the third consecutive year exceeded the estimated value of all crude oil produced in the United States. The 1935 tax bill is estimated at $1,127,259,232 by the American Petroleum Industries Committee, while preliminary figures place the estimated aggregate value of 1935 crude oil production at $975,000,000.

The totals, compared with 1921 figures, indicate that while the value of crude oil has increased only 19.7 percent in the 15 years, the tax costs have increased about 935 percent. It is estimated that if the increase in the value of the product had kept pace with the growth of taxes, the 1935 output would have been worth over $7,500,000,000.

The 1921 tax bill was estimated at $108,773,631, and the value of crude oil produced at $814,745,000. The 1933 tax bill was $1,004,824,028 as compared with crude oil output value of $608,000,000. The 1934 tax bill was $1,046,149,575 against $904,825,000 estimated value of crude oil output.

High Gasoline Tax Rate

Evidence that high gasoline tax rates tend to decrease the density of the nation's automotive population and thereby curtail both trade and tax revenues has been found in a survey comparing state gasoline tax rates and state population per motor vehicle.

The survey disclosed also that reduction of excessive gasoline tax rates would tend to create a $2,440,000,000 market for approximately 4,632,000 motor vehicles, increase gasoline demand about 2,780,000,000 gallons, and provide tax revenue of about $152,888,000 annually.

It was found that the aeverage density of the nation's automotive population, based upon preliminary reports of 1935 motor vehicle registration, is 4.83 persons per motor vehicle. In 12 states and the District of Columbia, where gasoline tax rates do not exceed 3 cents per gallon, the average density is 4.11 persons per vehicle. However, in 28 states with gasoline tax rates of 4 cents to 5 cents per gallon, there are 4.86 persons per motor vehicle, and in eight states with gasoline tax rates of 6 cents or more there are 7.61 persons per motor vehicle.

One of Freney Kimberley Oil Company's wildcats in the heart of the Kimberley region in the northern part of Western Australia.

NUECES BAY BIDS

Austin.—The State Land Office has received bids on six tracts in Nueces Bay, and two in Oso Creek, San Patricio County. The bids were filed on May 4, and there was only one bidder for each tract.

International Petroleum Corporation, bidding on Tract 688, offered $746 in cash, and $10,250 per well from nine and one-third percent of the oil. Bidding on Tract 707 International offered $1,060 in cash, and on Tract 753 they bid $402. In each case they offered $10,250 per well from nine and one-third percent of the oil.

The Empire Companies, bidding on Tract 689, offered $4,263.

Southern Minerals Corporation offered $2,181 cash for Tract 708, plus $14,193 to be paid from one-sixteenth of five-sixths of the oil and gas. On Tract 710 they offered $2,027 cash and $13,193 from one-sixteenth of five-sixths of the oil.

In the Oso Creek area T. G. Banks bid $404 for Tract "F"; however, Banks bid only one-eighth royalty, and the land commissioner had specified that a minimum of one-sixth royalty would be required. On Tract "G" in Oso Creek, International Petroleum Corporation bid $222 cash and $10,250 per well out of nine and one-third percent of the oil.

ATTACK OWNERSHIP

Austin.—Suit has been filed in the 98th District Court to determine the validity of the lease obtained by Centennial Oil Company on the Chiltipin Creek tract in San Patricio County. The state has filed the suit to determine whether Land Commissioner Walker or the State Board of Mineral Development should have awarded the lease. The former has jurisdiction over tidewater lands and submerged lands, while the latter has jurisdiction over river bed lands.

The suit has been filed to determine into which classification Chiltipin Creek should fall.

VALLEY TESTS DEEP

Mission.—Quintana Petroleum Corporation had reached 8592 feet and continued to core J. C. Engelman 1, Lot 10, Block 94, Las Mestenas Grant, four miles south and east of the Mestenas field of Hidalgo County. This is one of the deepest wells ever drilled in the South Texas district and is holding keen interest in this sector.

Second producer for the Mestenas field seemed probable with Gulf States Oil Company's J. C. Engelman 3, Lot 3, Block 70, and about 650 feet east of the discov-

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ery well, coring gas sands with distillate showings at 6706-29 feet. The well is coring ahead at 6782 feet.

Union Sulphur Company et al's American 7 in the Mercedes field, Hidalgo County, continues to test through perforations at 7440-49 feet. Same company is coring below 7763 feet in American 8 and is coring below 6635 feet in American 9.

Shell Petroleum Corporation's Yturria 1, projected 9200-foot wildcat in Willacy County, is making hole below 5000 feet.

California Company's Mrs. B. Garcia 1, in the Alta Mesa district of Brooks County, another deep test for this sector, is coring at 6330 feet.

Several edge wells in the Samfordyce field of Starr and Hidalgo Counties found production in the 2700-foot Frio sand to slightly extended production.

HAMILTON COUNTY

Ranger, Texas.—Seaboard Oil Corporation's Julia Dawson 1, second test drilled on the company's 11,000-acre block, centering upon the Pottsville structure, northwestern Hamilton County, showed sulphur water when formation tester was used twice in Ellenberger lime horizon topped at 2990 feet. Drilling was in progress below 3196 feet late last week, but the hole will be plugged back, possibly for acid treatment of the top section of the Ellenberger, which showed oil saturation, then it will be completed in prolific dry gas zone passed up in the Marble Falls limestone. Dawson 1 is located about 3500 feet north by east of the company's T. K. Rea 1, which was completed last March as a big gasser at 2455 feet, or 1073 feet below sea level. The latter is the only producer in the county.

HAMILTON FAILURE

Fort Worth.—Seaboard Oil Corporation's Julia Dawson 1, located 3500 feet northeast of wildcat gasser completed by the company in northwest Hamilton County last March, proved dry when formation tester was used on Ellenberger lime zone at 2990-3045 feet. The hole will be deepened, as no water appeared in the tester. This well passed up heavy gas production in the Marble Falls lime horizon, source of production for the discovery producer.

DR. HAL P. BYBEE, geologist and mineralogist for the mineral leasing board of the University of Texas with headquarters at San Angelo, has been appointed head of the department of geology for the University at Austin, effective next September. He succeeds Dr. Frederick W. Simonds, who is slated for retirement after 46 years' service. Dr. Bybee will retain his position as geologist and mineralogist for the board, spending the summer months at the West Texas field office. During his absence, J. N. Gregory will be in charge of the San Angelo bureau.

WILL A. ROUNDS, engineer for Continental Oil Company in the Fort Worth division, has been transferred to the Houston district office, and he will be succeeded at Fort Worth by C. A. West.

Activity Increases

MANSION OVERSHADOWS OTHER OKLAHOMA DEVELOPMENTS

WEEKLY STAFF REPORT

Tulsa.—Completion of a large extension well in the "Mansion Area" of the Oklahoma City field, and the rush of development there continued to overshadow all other Oklahoma activities. Another development of interest was the failure of an extension attempt to the recently discovered Wilcox sand in the old Billings field to produce. Throughout the state the exploratory campaign was gaining momentum, especially in the McAlester Basin area in the southeastern part of the state and in the Altus-Tipton area in the southwestern part of the state.

Fitts Is Quiet

INTEREST IN AREA CENTERS SEVERAL WILDCAT TESTS

Ada.—Activity in the Fitts field continues to be relatively slow, with interest still centered in the eastern part where several good Hunton lime wells have been completed recently. Several wildcats drilling in the vicinity are being watched as they approach decisive depths, and a number of new tests are anticipated.

Late in the week a report from Oklahoma City stated that the petition of Fitts field Hunton lime well owners for reclassification to Class C from Class D had been dismissed. No details were available. Under the present wildcat or Class D rating the wells are allowed to produce 100 barrels per day each, whereas all other producing horizons in the pool have been given Class C rating and are permitted to produce on a percentage of potential plan. Reports issued during the week for the period April 2 to May 2, 1936, show that formation pressure in the key wells declined only from 1,386.54 to 1,333.24 pounds per square inch with production totaling 1,654,311 barrels during the period. This is a decline of .032 pounds per 1000 barrels of production.

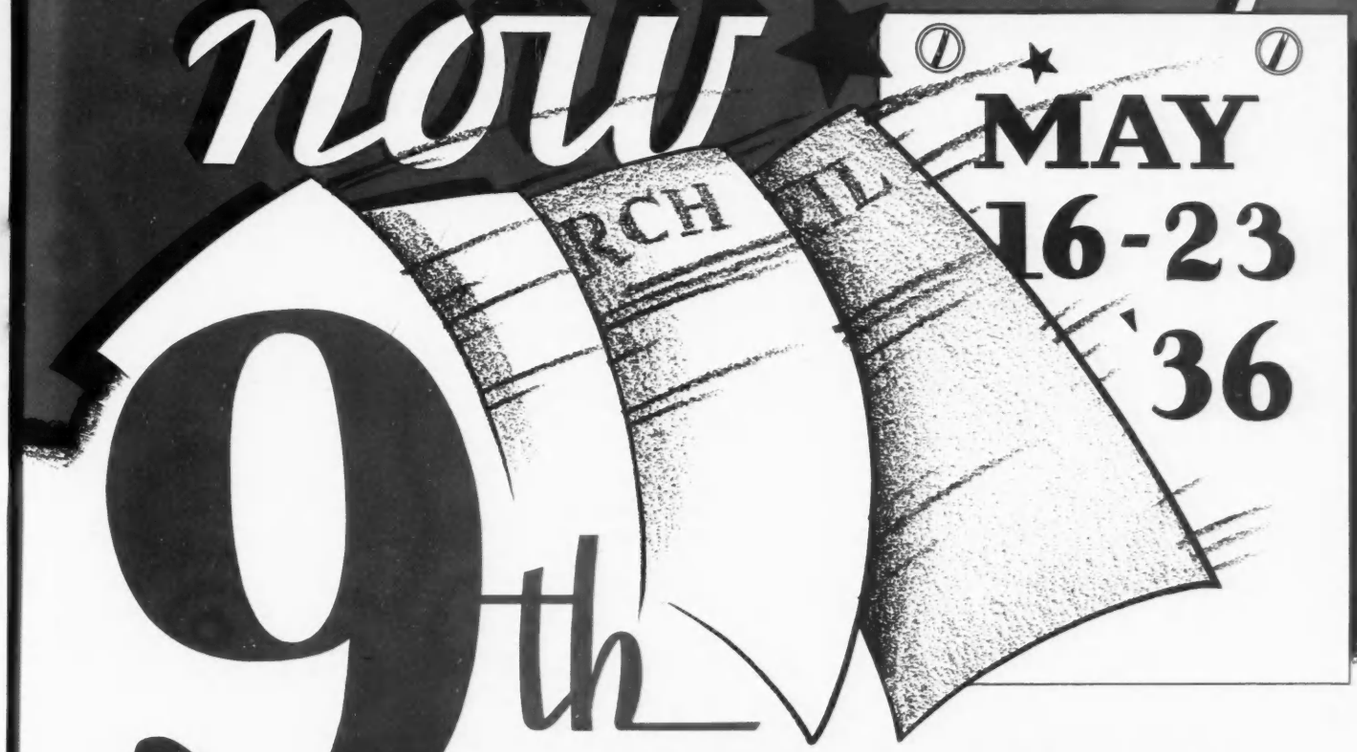
In the Jesse area, 5½ miles east of the Fitts pool, Continental Oil Company's House 1, NW NW SE 12-1n-7e, southeast diagonal offset to the discovery well, topped Bromide formation at 4174 feet and was drilling below 4267 feet. No showings had been reported. One location north and three west of the discovery well the same operator's Monroe 1, NW SW NW 12-1n-7e, topped Woodford shale at 3523 feet and was drilling below 3668 feet.

Wildcat Activity

Shell Petroleum Corporation's Hill 3, SE SE NW 30-3n-10e, wildcat test seven miles northeast of the town of Centrahoma in northern Coal County, was not being generally accorded more than a remote chance of finding commercial production despite the large number of small showings it has encountered. When reported late in the week another small showing had been encountered in the cuttings, the hole had been cored from 6183 to 6194 feet and the core was being pulled from the hole. This test had a great thickness of Atoka formation and was running very low when it cut back through a fault of major displacement, making it run several hundred feet higher than the nearest reference well.

Two miles north and five miles west of the town of Bromide in northeastern Johnston County, Magnolia Petroleum Company topped Bromide formation at 2234 feet and had reported no showings in Green 1, NE NE NE 12-2s-7e. To the southeast and over the line in western Atoka County, Riverland Oil Company's Jones 1, SW SW NE 4-3s-9e, four miles northwest of the town of Boggy Depot, topped Hunton lime at 1526 feet and was drilling below 1535 feet with no showings reported. Both these wildcat tests are in the Arbuckle Mountain province whereas the formations that produce at

It wont be Long now



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great depths in other parts of the state have been brought relatively near the surface. The area has been highly folded and faulted.

Announcement was made of another interesting wildcat test in Atoka County, when Prairie Investment Company staked location for Cobb 1, SW NE NW 19-3s-11e, near the town of Tushla. Contract depth is 2500 feet, the drilling to be done with a spudder. The test is located on a 40-acre tract where several oil seepages have been found and on a block taken on the basis of a geological report by Dr. Ed Bloesch, consulting geologist of Tulsa. Viola lime outcrops at the location, and it is believed that Wilcox sand can easily be reached at 2500 feet or less. The area has also been shot with seismograph but the findings have not been made available.

It is rumored Carter Oil Company will stake a location either in the SW SW SW 35-1s-8e, or in the NW NW NW 2-2s-8e, 2½ miles east of the town of Bromide and about 5 miles southwest of the town of Clarita in northeastern Johnston County, Carter Oil Company has about 2000 acres in the block. Magnolia Petroleum Company, Shell Petroleum Corporation, Barnsdall Oil Company and Skelly Oil Company also own acreage.

Simpson Is Found

MARIETTA WILDCAT FINDS FORMATION AT 7963 FEET

Ardmore.—Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, important wildcat test 16 miles northwest of Marietta in northwestern Love County, topped the Simpson group at 7963 feet, had a limestone which may be McLish at 8197 feet. A part of the lower Pennsylvanian and part of the upper Simpson beds apparently have been removed, indicating a truncated structure

Five miles northeast of Marietta in the northeastern part of Love County, Amerada Petroleum Corporation and Stanolind Oil & Gas Company had an estimated 25 to 30-barrel well at Westheimer 2, SW SE SW 27-6s-2e. Last week the test was treated with 5000 gallons of acid after being plugged back from 7363 to 6300 feet. Other showings above 6300 feet will be tested and if the well does not show considerably more capacity it will be abandoned.

Gulf Oil Corporation's (Gypsy) Shirley 1, NE NW NE 6-1s-19w, extension well in the Tipton Pool of southeastern Jackson County, was deepened two feet during the week to 2630 feet and yielded 550 barrels of oil in 24 hours. Production is from the Cisco lime series. Shirley 2, SE NW NE 6-1s-19w, south offset to Shirley 1, was ready to spud, and Shirley 3, NW NW NE 6-1s-19w, west offset to Shirley 1, was digging cellar and pits and moving in tools.

The same operator's Boucher 5, NW SE SW 32-1n-19w, in the older part of the pool, was ready for the drilling of plugs after cementing casing at 2544 feet. South of the Altus pool, J. M. Young et al had reached the contract depth of 3000 feet in Briscoe 1, NE SW NE 36-1s-20w. It probably will be abandoned at that depth unless other capital is made available at an early date.

Southern Tillman County had two new wildcat tests under way with the spudding of Johnson et al's Donahoo 1, SE NW NW 7-4s-17w, about 11 miles south of Frederick in the southwestern part of the county. It is to be a 3000-foot test. The second test in Clum et al's Miracle 1, NW NW SE 16-4s-16w, near the Red River bed production of the north Burkburnett pool of Texas. It is to be a 3500-foot test, the deepest yet scheduled or drilled in the area.

Mansion Extended

HALF-MILE AREA IS PROVED BY A 20,139-BARREL WELL

Oklahoma City.—Barnsdall Oil Company et al's Banks-Geyer 1, C S½ SE SW SE 15-12n-3w, proved an area of almost a half-mile in the "Mansion Area" of the Oklahoma City pool, and was given a potential rating of 20,139 barrels late in the week. This test had Wilcox sand from 6416 to 6487 feet, the total depth, and was only a few feet lower than the nearest reference well.

Approximately one-quarter of a mile to the west Anderson-Prichard Oil Company's Wheeler 1, SE SE SW 15-12n-3w, now considered one of the most important key tests in the "Mansion Area," was drilling below 6100 feet and reported running lower than the Banks-Geyer. Operators refused to divulge any information regarding horizon markers.

In the older part of the extension, British-American Oil Producing Company et al lost 28 joints of tubing in the hole in Burnham 1, C W½ SE NW SW 23-12n-3w, a test which topped Wilcox sand at 6347 feet and had flowed as high as 320 barrels per hour through pressure control equipment.

Garvin County

Northwest of Purcell in central McClain County, Arab Petroleum Company had established the record of the deepest drilling well in the state as Autry 1, NW NW NW 16-7n-3w, went ahead below 8555 feet. No horizon markers have been made available upon which to check this test which evidently is running very low.

Hollenbeck et al's Cooper 1, NW NW NE 15-11n-1e, in the Stella-Newalla area of southeastern Oklahoma County, topped Misener sand at 5857 feet, Hunton lime at 5860 feet, Sylvan shale at 5998 feet and had a showing of oil at 6014 feet. It was reported running 215 feet higher than the old Spring Rose test in Section 19-11n-1e, a test which found Wilcox sand dry and was plugged back to make a small well temporarily in Hunton lime.

43 COMPLETIONS

Tulsa.—The 43 completions in Oklahoma last week included 27 oil wells with total initial rating of 28,368 barrels, 2 gas wells with combined initial volume of 9,000,000 cubic feet, 11 dry holes, and 3 abandoned locations. Total footage for the week was 109,647 feet, which included 19,160 feet in six wildcat tests and 199 feet in one old well.

ANDREW MILEK, chief geologist of Mexican Sinclair Petroleum Corporation at Tampico, Mexico, has been spending a few days in Northern Mexico in connection with the company's drilling operations in that territory.

ASK FOR RETRIAL

Old 1933 excess oil case is before court again

Austin.—The Third Court of Civil Appeals has remanded for trial one of the first suits involving excess oil.

The case was the Railroad Commission versus Haynes Drilling Company, involving 10,388 barrels of excess oil produced in 1933.

The present question involved in the case is whether the Haynes Company, after having paid a fine of $500, had the legal right to transport the oil.

"We are of the opinion," said the court, "that the judgment declaring the oil would be legal after payment of the penalty, should be revised, and the cause remanded . . ."

At the new trial the Court pointed out that the Haynes Drilling Company would have a right to prove its contention that there was no valid proration order in effect at the time the oil was produced, and the State may be able to show that the oil should be confiscated.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BRYAN COUNTY—		
Trio Oil, Gilbert 3, csw 25-8s-7e....	*	1200
CARTER COUNTY—		
Simpson-Fell, Akers 2, se ne ne 5-2s-2w	lcn	abd.
Southern States Oil, Moore 1, ne se nw 30-4s-1w	*	1155
CREEK COUNTY—		
Tibbins Estate, Yarbough 3, se se sw 7-14n-9e	10	2368
ELLIS COUNTY—		
Davison Pet. 1, cse nw 21-20n-24w..	*	20
HUGHES COUNTY—		
Sinclair Prairie, Proctor 1, cse ne 11-7n-8e	*	2949
Carter Oil, Hampton 3, sw ne ne 1-9n-8e	432	1728
Mid-Continent, Hampton 5, se sw ne 1-9n-8e	634	1712
Sinclair Prairie, Oliphant 9, nw se ne 1-9n-8e	720	1694
Texas Co., Coonard 1, cnw nw 9-8n-10e	¶6	3195
JEFFERSON COUNTY—		
Mudge Oil, Robertson 3, se sw sw 10-3s-5w	¶3	1454
George Pace, Gardner 1, sw sw sw 23-5s-5w	*	2532
Reno Oil, Gaun 1, se sw ne 35-6s-4w	*	3176
Long, Yingling & Lauck, Seay 15, se sw se 3-7s-5w	35	1276
Seay 17, se se sw se 3-7s-5w.....	35	1089
LINCOLN COUNTY—		
Magnolia, 3, sw se se 2-14n-3e (pb 4250)	193	5013
MARSHALL COUNTY—		
Marshall County Oil, Adams 2, se sw se 31-7s-6e	lcn.	abd.
MUSKOGEE COUNTY—		
Naphan & Jarrett, Fluche 2, ne ne sw 17-14n-17e	52	1886
OKLAHOMA COUNTY—		
British-American, Piersol 2, se se se 22-12n-3w . .....¶21-14,264		6492
Barnsdall, Bracht 6, sw se sw 23-12n-3w	824	6546
Sinclair Prairie, Corbett 1, ne nw ne 17-13n-3w	225	6685
Shell, Smith 1, sw sw nw 32-14n-3w.	lcn.	abd.
OKMULGEE COUNTY—		
Ackme, Rentie 3, nw nw sw 19-14n-15e	5	1170
Cusack, Reading 1, ne ne ne 36-15n-12e	*	2765
OSAGE COUNTY—		
Sinclair Prairie, 27, se nw ne 5-21n-10e	20	1173
Carter et al, 4, ne nw nw 2-25n-6e .....¶2¼-250		2890
PITTSBURG COUNTY—		
Vaughn Prod. et al, Chunn 1, ne sw nw 29-4n-14e	*	1129
PONTOTOC COUNTY—		
Moore, Atkins 3-A, sw nw nw 32-2n-7e .....¶2-5445		4378
POTTAWATOMIE COUNTY—		
Phillips, Booze 2, ne ne se 9-7n-4e (pb 3546)	226	3763
Mid-Tex, Brandenburg 1, se se nw 21-7n-4e (otd 3985)	100	4184
Phillips, LeClair 1, sw nw ne 23-7n-4e (pb 4075)	643	4334
Maebris, Sullivan 2, ne nw nw 34-7n-4e	30	4292
Stanolind-Amerada, Rushing 1, se se sw 32-11n-4e	432	4449
SEMINOLE COUNTY—		
Deep Rock, Hagler 3, sw ne ne 19-9n-7e (pb 3514) .....¶38-740		4085
Wood, Reed 1, nw nw se 19-9n-7e (pb 3534)	*	4136
Amerada et al, Community Stout 1, ne ne sw 3-10n-5e	912	4438
Carter et al, Pipkin 2, ce½ se sw 2-10n-6e	651	4154
Gulf Oil, Wise 1, se nw ne 13-7n-4e.	1436	4118
STEPHENS COUNTY—		
Raizen Bros., Crosbie 5, sw sw sw 23-1s-5w	3	386
Louis Sykes, Mulkey 6, se ne ne 16-1s-8w	50	2032
Raizen Bros., Lewis 6, ne se nw 7-2s-4w	1	449
Raizen Bros., Lewis 7, nw se nw 7-2s-4w	*	680
TULSA COUNTY—		
Sand Springs Home, Thlacco 1, sw se nw 2-19n-11e	*	2457

*Failures; †Junked; ¶Million cu. ft. gas.

BILLINGS FAILURE

Tulsa.—The recently discovered Wilcox sand production in the old Billings field of northwestern Noble County received another setback the past week, when an extension attempt proved dry. The strike was heralded as quite important when the discovery well made a potential of 5096 barrels daily.

Twin State Oil Company's attempt to extend Wilcox production ⅝-mile to the north and ⅛-mile west of the discovery well was a definite failure, and is being plugged. It is O'Neil 1-A, SE SW NE 16-23-2w. After failing to find Wilcox sand this test went ahead to Arbuckle lime at 4530-35 feet, where it had water. It was plugged back to 2257 feet, and casing ripped. However, it failed to produce at this level also.

Phillips Petroleum Company and Shell Petroleum Corporation's O'Neill 2, SW SE SE 16-23n-2w, north offset to the Wilcox sand discovery well in the old Billings pool of northwestern Noble County, topped Wilcox sand at 4225 feet, recovered a saturated core to 4228 feet and cemented 8⅝-inch casing at 4224 feet. The discovery well has a potential rating of 5096 barrels per day.

Shell Petroleum Corporation et al's A. Murray 1, SW SE SW 10-24n-1w, in the southern part of the old Tonkawa pool in northern Noble County, was drilling below 2350 feet. Three miles north of the old Marshall pool and playing the Nemaha Ridge trend Sherry et al's Hoken 1, NW NW SW 32-20n-4w, topped Mississippi lime at 6145 feet, had a bad fishing job at 6246 feet and was redrilling below 6100 feet after whipstocking out of the old hole.

30 COMPLETIONS

Wichita.—The number of completions dropped from 42 during the preceding week to 30 during the past week when 17 oil wells were rated at 13,860 barrels initially. Two gas wells with combined initial volume of 32,500,000 cubic feet, nine dry holes, and two abandoned locations also reached the completion stage to bring the drilling footage to 80,818 feet. This included 12,483 feet in four wildcat tests and 701 feet in two old wells.

IVAN DAVIDSON, assistant manager of Cia. Mexicana de Petroleo "El Aguila" S. A. in Mexico City, was married April 23 in St. Louis, Missouri, to Miss Claire Gempp of that city.

New Fields Found

SCOTT COUNTY FIND STRIKE LEADS OTHER DISCOVERIES

WEEKLY STAFF REPORT

Wichita.—The far western part of Kansas came into prominence during the week when the Shallow Water area of Scott County gave indications of sand production probably flanking the established lime production and the western part of Ness County was showing for a new pool or a long extension of the old Aldrich pool. To the northeast Ellis County was showing for a new pool or a long extension of an old pool. Other areas which warranted special mention were the Cunningham pool of Kingman and Pratt counties, the Lerado area of southwestern Reno County and the northeastern part of Rice County, where a new discovery well was completed after showing oil for several months.

A discovery of more than usual importance was made early in the week in the Shallow Water area of southern Scott County when Atlantic Oil Producing Company recovered 13 feet of well saturated sand from 4590 to 4603 feet from Mark 1, C NW SW 14-20s-33w, southeast diagonal offset to the discovery well in Kansas' westernmost oil pool. The report stated the recovery to be saturated sand rather than limestone from which the discovery well produced 572 barrels initially at 4670 to 4686 feet. The two wells heretofore completed for a present potential of approximately 1300 barrels per day produced from the Mississippi lime, and yielded a relatively low gravity oil. Eight-inch casing has been cemented in the test at 4592 feet.

Continental Oil Company made a discovery that is being considered important late in the week when Thompson 1, C EL SW 13-18s-26w, 1½ miles southwest of the old Aldrich pool in western Ness County, topped Arbuckle (siliceous) lime at 4446 feet and cored to 4450 feet, finding the last three feet of lime well saturated and cementing 7-inch casing at 4445 feet. Topeka lime was encountered at 3540 feet and Kan-

sas City lime at 3890 feet. Reports indicate the find to be on a separate structure, but it could be an extension of the Aldrich pool, discovered by Continental in 1929 with the completion of Aldrich 1, NE NE SE 7-18s-25w. This well yielded 128 barrels of oil and some water from reworked dolomite at 4428 to 4430 feet, 573 feet below top of the Oswald lime. This probably should be correlated as Pennsylvania Basal Conglomerate.

A discovery that may be of considerable importance to northern Ellis County was made during the week when Lario Oil & Gas Company et al's Reynolds-Walter 1, SE NE SW 2-12s-18w, filled up with 2700 feet of oil in 16 hours from what apparently is a horizon in the Lansing-Kansas City group. The test is 2½ miles west of the old Shutts pool, one of the older pools of western Kansas and the first area in the western part of the state where Arbuckle (siliceous) lime production was obtained. Subsequently production was found in the Lansing-Kansas City.

In the eastern part of the county, Twin Drilling Company's Reidel 1, SW SW NE 27-13s-16w, six miles northeast of the Victoria pool, topped Arbuckle (siliceous) lime at 3507 feet and stopped drilling at 3565 feet where water was encountered. No showings of oil or gas were reported. Brunson's Gross 1, NE NE SW 29-14s-17w, wildcat test in the southeastern part of the county, topped Topeka lime at 2965 feet, drilled to 3075 feet and shut down to repair equipment.

The Pratt County or western part of the Cunningham pool was given another gas extension during the week when Skelly Oil Company's Maxedon 3, C SL S½ NE 25-27s-11w, set 7-inch casing at 4035 feet, was drilled to 4107 feet, and cleaned itself for 3½ hours, at the end of which time it gauged 14,500,000 cubic feet of gas. Shut in for 35 minutes, it built up a casinghead pressure of 1385 pounds per square inch. Operators were pulling the 7-inch to ream down, and will drill ahead to test Arbuckle (siliceous) lime.

Shell Petroleum Corporation's Whipple 1, C W½ NW 14-26s-9w, one-half mile south of production in the important Lerado pool of southwestern Reno County, topped the Viola lime at 4125 feet, at which point 7-inch casing was cemented and the hole standardized. Plugs will be drilled within the next week. The Laredo pool, discovered by Shell in November, 1935, now has four wells with combined daily potential rating of 23,814 barrels of which 11,123 barrels is credited to one well. Shell Petroleum Corporation owns the entire productive area as now defined.

Empire Oil & Refining Company's Holtje 1, NW NW NE 9-26s-4w, on the northeastern edge of production in the Hilger pool of southeastern Reno County, topped Viola lime at 4115 feet and had 500 feet of oil the first 17 hours with a penetration of only three feet. It is a south offset to Rosespring Drilling Company and Foraker's Braner 1 which made 560 barrels initially from seven feet of Viola lime topped at 4106 feet.

Several interesting wildcat tests were nearing the objective horizons in the campaign which has resulted in several pools for Barton County. In the Albert area in the western part of the county, Schermerhorn Oil Corporation's Hunter 1, NE NE NE 29-18s-15w, topped Oswald lime at 3194 feet, drilled to 3230 feet and was running eight-inch casing. No showings were reported but the test is said to be running high enough to expect Oswald production. Derby Oil Company's Roth 1, SW SW NE 25-19s-11w, in the Bloomer area in the eastern part of the county, encountered top of the Arbuckle (Siliceous) lime at 3324 feet, had three bailers of water from 3382 to 3385 feet and was plugged back to 3380 feet, where it was treated with 1000 gallons of hydrochloric acid and shut in. In the next township north Moore et al's Feist 1, NW SW SE 29-18s-11w, topped Arbuckle (Siliceous lime at 3477 feet, cemented 7-inch casing at that point and was rigging up standard tools. No showings had been reported.

The northeastern part of the county received a setback with the abondonment of Arch Merriam et al's Soeken 1, SW SW SE 21-17s-11w. This wildcat test encountered sulphur water and was abandoned at 3300 feet. Davidson et al's Birzer 1, SW SE SW 22-17s-12w, near the town of Redwing, had salt at 1220 feet, Fort Riley lime at 1760 feet, and was drilling below 2340 feet.

Day et al's Mason 1, NW NE NE 28-21s-7w, new Mississippi chat discovery well in southeastern Rice County, yielded 135 barrels in five hours on the pump from pay topped at 3388 feet and penetrated to 3400 feet, the total depth. It is on subsurface geology and on trend on the Central Kansas Uplift. This test was started in February, 1935, and encountered first oil almost a year later, having been shut down a good part of the intervening time.

In the northeastern part of the county, Dickey Oil Company and Continental Oil Company's Newkirk 1, NE NE SW 11-18s-7w, topped Simpson at 3179 feet, had a hole full of water from 3192 to 3194 feet, and was drilling below 3225 feet. It will test Arbuckle (siliceous) lime from which 12 of the Rice County pools produce. Witt et al's Hall 1, SE SE NW 3-20s-9w, northeast of the Raymond pool in the southwestern part of the county, topped Arbuckle (siliceous) lime at 3222 feet, had a showing of oil at 3235 feet, and was abandoned at 3252 feet after showing 1½ bailers of water per hour.

Ellsworth County

In the Lorraine area of southwestern Ellsworth County, Empire Oil & Refining Company's Kroesch 1, NW NW SE 33-17s-9w, topped Pennsylvanian Basal Conglomerate at 3208 feet, set 6⅝-inch casing at 3217 feet, and was being drilled below 3225 feet with no showings reported.

Russell County, although still quite active and one of the leaders of the state in exploratory work, did not produce anything other than routine during the week. One mile south of the Dillner pool in the southwestern part of the county, Wolf Creek Drilling Company's Dillner 1, SW SW SW 36-13s-15w, was abandoned at 3329 feet.

In southwestern Sumner County, Wilcox Oil & Gas Company's Hess 1, SE SE NW 13-34s-2w, topped Mississippi chat at 4120 feet and was drilling below 4175 feet still in the lime.

45 KANSAS STARTS

Wichita.—New work continued to be reported at an abnormal rate when scouts made 45 first reports. This is only one more than during the preceding week but about 33-1/3 percent above the weekly average for the first 19 weeks of 1936. Reno and Russell Counties were tied for the new-work lead during the week with seven first reports each; Butler County in the eastern part of the state had six; Rice County, five; Barton County, four; Rooks County, three; Cowley, McPherson and Sedgwick counties, two each; and Edwards, Ellis, Greenwood, Kingman, Rush, Stafford and Sumner counties, one each.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Continental, Risse 9, ce½ nw se 36-19s-11w	1558	3284
Gulf Oil, Wendell 6, cw½ se ne 36-19s-11w	1157	3287
Phillips, Matzek 3, se ne ne 36-19s-11w	99	3322
Magnolia, Meda Steckel 3, se ne nw 1-20s-11w	1475	3288
BUTLER COUNTY—		
El Dorado Ref., McCramer 2, ne sw nw 1-25s-3e	*	2733
COWLEY COUNTY—		
Tree Oil, Hauser 4, cs½ n½ se 19-30s-4e	*	2905
Penwest, Clover 1, ne se se 8-31s-7e (pb 1460)	¶8	3172
Gralapp & Looney, Rockwell 1, se se ne 13-32s-4e	*	3077
ELLIS COUNTY—		
Gibson et al, Ryder 3, se sw se 8-15s-18w	431	3335
Palmer & Stormking Oil, Ruder 5, ne ne nw 17-15s-18w	lcn.	abd.
ELLSWORTH COUNTY—		
Skiles et al, Kafka 1, ne ne sw 15-17s-8w	*	3327
GREENWOOD COUNTY—		
Dunn, Dawson 1, cnw ne 27-26s-13e	*	1527
HARVEY COUNTY—		
Marathon, Hege 1, nw sw sw 13-22s-2w	¶24½	2927
McBride, Schmidt 4, ne ne ne 30-22s-3w (otd 3464)	*	3635
McPHERSON COUNTY—		
Marathon Oil, Pitts 1, csw se 2-19s-2w (otd 2995)	*	3525
McBride, Hale 1, ne sw ne 24-19s-2w	170	2975
RENO COUNTY—		
Marathon, Priddle 1, nw sw se 17-24s-4w	¶2¼-1228	3368
McPherson Drlg., Miller 1, se se ne 23-24s-5w	*	3975
National Ref., Bell 1, ne ne ne 36-24s-5w	lcn.	abd.
Magnolia, Harris 1, ne ne nw 9-26s-4w	1488	4118
RICE COUNTY—		
Continental, Root 1, nw ne ne 36-18s-8w	579	3181
Gulf Oil, Steckel 7, sw sw sw 30-19s-10w (pb 3310)	741	3315
Davis et al, Dueser 8, nw sw sw 31-19s-10w	1148	3278
Empire, Burns 1, sw nw sw 15-20s-10w	465	3383
RUSSELL COUNTY—		
Texas Co., Anschutz 3, sw nw sw 1-14s-15w	379	3099
Texas Co., Ginter 1, se se nw 19-12s-15w	600	3028
Central Pet., Witt 3, sw se se 3-14s-15w	1666	3283
TREGO COUNTY—		
Continental, Holcomb 1, ne se nw 26-11s-23w	616	3654
WOODSON COUNTY—		
Woodson County Pipe Line, Wintershield 6, sw nw se 6-24s-14e	60	1714
Rockhill & Brookover, Vermont State Bank 1, 26-25s-14e	*	1562

*Failures; †Junked; ¶Million cu. ft. gas.

Winkler Areas Link

COMPLETION BETWEEN KERMIT AND SAYRE

WEEKLY STAFF REPORT

Midland, Texas. — Linking of the northwest Kermit area, Winkler County, with the Sayre field appeared virtually assured the past week when Mid-Continent Petroleum Corporation's J. B. Walton 1, SEc NW Section 24, Block 26, PSL Survey, averaged 25 barrels of high-gravity oil per hour natural from sandy-lime section at 2850-2925 feet. It is less than 1½ miles from nearest production in the Sayre field, and ½ mile north of south extension area opened last March by Bert Fields, Wilson Keys and A. W. Cherry's Central State Bank 1. The Sayre field promises to extend more than 7 miles to the north and south, eventually hooking up with the Scarborough field, the original sandy-lime producing field for the county, and average more than a mile in width.

In the south extension area, Illinois Oil Company's Walton-Central State Bank (Conoco) 1 earned a potential rating of 287 barrels of oil and 6,519,000 feet of gas after 540-quart nitro shot in sandy-lime at 2840-3110 feet. The hole was drilled to 3116 feet, with an elevation of 2858 feet. Bert Fields et al's Oscar Clapp-Pure 1, NEc NE Section 26, flowed by heads while drilling the pay zone, and was due to shoot and complete late last week. W. L. and E. J. McCurdy's W. A. McCutcheon-Pure 1, SWc Section 16, Block B-3, PSL Survey, ½ mile east of production in the northwest Kermit area, was flowing steady with the hole bottomed at 2980 feet, or 106 feet sub-sea, and will be shot with nitro. Illinois Oil Company is rigging up to drill a test several locations to the north on 160-acre tract farmed out by Continental Oil Company.

Production gauge given R. H. Henderson et al's J. B. Walton-Humble 2-B, NWc Section 10, block 26, second big producer for the north extension of the Hendrick field, gauged 1689 barrels of oil initial through ⅜-inch tubing choke from lime at 3051 feet. It was rated at 200 barrels hourly on open casing gauge reported last week.

The Brown-Altman sandy-lime area, situated immediately east of the south portion of the Hendrick field, has a new producer in process of completion. Texas Pacific Coal & Oil Company's Brown-Altman 1, C NW NW Section 38, Block B-5, PSL Survey, produced 56 barrels oil in 6 hours after 510-quart nitro shot at 2798-3160 feet. Cavings bridged the hole, necessitating the running of a liner.

YOUNG AREA WIDENED

Wichita Falls, Texas. — Deep lime production in the Rathke field, south central Young County, was extended about three quarters of a mile to the northwest by the successful completion of Jerome McLester and Dobbs Oil Company's N. Laquay 1, J. Buse Survey, Abstract 1570, at the 4126-foot level. The well responded to treatment with 3000 gallons of acid solution in lime at 4112-24 feet with an open flow of 66 barrels of oil the first hour. Due to insufficient storage it was placed on small choke and assigned a potential of 238 barrels. The well is on a 160-acre lease, and the partnership holds lease on a total of 400 acres in the area.

Nash & Windfohr Oil Corporation's W. S. Sims-Conoco 1, SWc lease, D. Franklin Survey, Abstract 1425, recent semi-wildcat strike 2 miles north of the Rathke area, earned a potential rating of 736 barrels with an allowable of 230 barrels daily. It is producing from lime section at 3718-3764 feet after using 3000 gallons of acid. Laquay 1, showed for a small producer in this same horizon, which was passed up to try for the more prolific lime.

Olson Drilling Company et al's Southwestern Life 1, Grayson County wildcat seeking Ordovician lime production on the Preston Anticline, is preparing to set whipstock after plugging back hole from 5890 feet to 5440 feet. Section of drill pipe was lost when within 110 feet of the contract depth. Sponsors of this test plan to proceed beyond the contracted footage when sidetrack work is completed.

The Cooke County deep test of Sunray

WEST TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY, (Gulf-McElroy Field)—		
Gulf Oil Corp., McElroy 132	1054	2952
ECTOR COUNTY, (Judkins Field)—		
Sinclair Prairie, University 1-A	208	3660
Skelly Oil Co., J. Scharbauer 3	151	3672
ECTOR COUNTY, (North Cowden Field)—		
Sun Oil Co., L. E. Wight 5-A	892	4275
HOWARD COUNTY—		
Conoco & Group 1 Oil Corp., Overton 7	†	2085
Owen M. Murray et al, Davis-Magnolia 5	1214	2817
W. E. Prod. Co., Scrivner-Pure 1-E	260	2366
JONES COUNTY—		
Ungren & Frazier, H. Dorsey 4	2100	2224
PECOS COUNTY (Masterson Pool)—		
Samwan Oil Co., Shearer 1	73	1487
PECOS COUNTY, (Torborg Field)—		
Cardinal Oil Co., Smith-Cornell 7-A	10	529
Stanolind, Tippett 17-B	15	399
PECOS COUNTY, (Yates Field)—		
Cardinal Oil Co., State-Arthur (No. 19097) 1,	408	1333
State-Reed (No. 19098) 1	12,528	1285
WARD COUNTY—		
W. A. Black & Son, A. B. Gordon 3	1206	2536
Pat Hill et al, E. H. Clements-Sun 2	185	2375
Sid Richardson Oils, Inc., Johnson-Sun 31-B	1103	2580
Stanolind, Cunningham 1	228	2503
WINKLER COUNTY, (Hendrick Field)—		
R. H. Henderson et al, Walton-Humble 2-B	4000	3051
WINKLER COUNTY, (Keystone Field)—		
Gulf Oil Corp., Keystone 12	830	3515
WINKLER COUNTY (Sayre Field)—		
Illinois Oil Co., Walton-Abilene Bank-Conoco 1	287	3116
Humble-Tide Water, Walton 2-D	434	2993
Sayre Oil Co., Howe 7-B	1150	2990

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Magnolia, Raymond Harrah 13	522	3195
HUTCHINSON COUNTY—		
J. E. Crosbie, Inc., H. W. Pitts 11	598	3040
The Texas Co., R. L. Pond 6	732	3058
MOORE COUNTY—		
Sunray Oil Co., C. J. Jones (696) 1	189	3432
WHEELER COUNTY—		
Ben G. Barnett et al, Pryor 2	25	2239
Skelly Oil Co., D. E. Johnson 17	1535	2540

*Failures; †Junked; ¶Million cu. ft. gas.

WEST CENTRAL TEXAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
Crabb & McNeil, Elsberry 8	*	1433
L. Ehlinger et al, Armstrong 1	12	1306
Preston & Bonds, Wilson 1	*	1609
Williams & Glenn, Penticost 1	*	1431
Worth Thomason et al, Evans 1	*	724
CALLAHAN COUNTY—		
Campbell & Pennington, Jackson 1	*	1800
L. Fikes et al, Jackson 1-H	105	1007
Hal Hughes et al, Williams 1	*	2112
J. F. Jacobs et al, Reid 1	*	1396
Kleiner & Warren, Jackson 1	¶3½	1262
L. V. Lockhart et al, Woods 2	*	1933
Pueblo Pet. Co., Jackson 3	42	960
COLEMAN COUNTY—		
Anzac Oil Corp.-Humble, Morris 1	*	2424
EASTLAND COUNTY—		
Ray T. Huff et al, Nabors 1	*	1070
A. A. Wisdom et al, Wende 1	12	3503
SHACKELFORD COUNTY—		
Albany Oil Co., Davis 8	55	1591
Baker & Pardue, Morris-Buie 2	257	1604
Charter Oil Co., Mimms 8	202	1600
Condor Pet. Co., Davis 1	*	1875
Reynolds 2	†	1910
Eppenauer Drl. Co., Morris-Buie 3	125	1588
Gilman & McMurray, Jeter 14	*	938
J. L. Hart et al, Dodson 1	*	724
Healey & Waters, Newell 1	*	1577
Hoffman & Page Co., Morris-Buie 18	20	1607
Humble, Nail 2, sec 150	3	1545
Livingston & Wellman, Morris-Buie 2	4	1581
Loggie & Arndt, Ghio 1	2	596
S. L. Price et al, Dyer 1	*	1280
Reliance O&Roy Co.-Skelly Oil Co., Mathews 1-D	*	3160
Reliance & Jones-Stanley, Morris-Buie 1, sec 190	180	1601
Roeser-Pendleton, Inc., J. H. Nail 1	*	1570
Roeser-Pendleton & Humble, Morris-Buie 4, sec 191	130	1607
Roeser-Pendleton & Merry Bros-Perini, Moore 1	*	4515
T. K. Simmons et al, Harvey 2	20	1714
Terry & Pace, Green 1	*	1110
Turner & Ferguson, Dyer 1	*	1278
West Texas O&P Co., Morris-Buie 5	109	1607
Morris-Buie 6	216	1608
White & Duncan, Morris-Buie 2	30	1596
Wood & Housley, Nail 1	*	1610
STEPHENS COUNTY—		
Homestead O&G Co., North Texas Farms 2	*	1808
A. A. Michael et al, Whitney 3	*	652

*Failures; †Junked; ¶Million cu. ft. gas.

Oil Company, Sinclair Prairie Oil Company et al on the A. C. McCall tract, W. H. White Survey, A-1134, is preparing to resume drilling at 4729 feet, having halted operations last week to re-cement 10-inch casing at 664 feet. Sinclair Prairie Oil Company recently acquired a half interest in the McCall test and surrounding lease block, and contract depth has been extended to 5000 feet. The latter concern is also credited with having purchased five eighths interest in Gibson & Jennings' 4500-acre block in Montague County. A 6500-foot test is scheduled to get underway within 90 days, with tentative location on Lot 45, Kaufman County School Lands Survey, A-407, about three miles south of Spanish Fort.

Important Tests

TWO WELLS DUE TO SHOW EXTENSION POSSIBILITIES

WEEKLY STAFF REPORT

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Macon-White 94, sec 35	*	726
J. H. Turbeville 1-K, blk 151	*	1542
Cable Oil Co., Webb 10	20	714
Fain-McGaha Oil Corp., McCrory-Wilson 6-F, blk 21	*	1625
Belle Wisdom 1	*	1393
Hamilton Pet. Co., Abercrombie 36	70	1159
W. H. Junker et al, Junker-Kunkle 1, blk 12	40	1242
Regal Oil Co., Wilson-McCrory 3, blk 15	150	1613
BAYLOR COUNTY—		
Morris & L. Spoonts, C. E. Holman 2, sec 110	*	540
D. K. Martin 1, sec 246	*	969
CLAY COUNTY—		
Metzner & Burns, G. H. Winfrey 1.	*	492
COOKE COUNTY—		
Fisher & Moore, F. J. Yosten 1	45	927
T. P. Frost et al, Rohmer 4, blk 16.	15	836
L. A. Long et al, Sarles 1, sec 23	*	2358
Murray Inv. Co., Rohmer 6	50	961
Pet. Producers Co., J. W. Mount 1	16	1650
Seitz-Comegys & Seitz, Inc., Trew 6-A	155	1104
JACK COUNTY—		
C. W. Clark et al, Singleton 3, blk 4	*	804
J. Knotts et al, W. M. Johnson 1	*	730
MONTAGUE COUNTY—		
Perkins-Cullum Oil Co., N. J. Howard 8	20	1390
Continental Oil Co., N. J. Howard 28	35	1174
WICHITA COUNTY—		
W. B. Omohundro et al, S. P. Gibson 1-B, blk 302	35	1908
H. L. Rugeley et al, Waggoner Est. 9, blk 148	119	1617
A. B. Wharton Jr., Waggoner Est 6-B	220	1988
WILBARGER COUNTY—		
Fain-McGaha Oil Corp., Waggoner Est. 6-Y, sec 43	77	2415
Ed. S. Smith et al, Waggoner Est 1, sec 50	*	1919
Wheeler & Brashear, Waggoner Est. 1, sec 99	*	2406
YOUNG COUNTY—		
L. T. Burns et al, Dora Logan 1, sec 70	*	1302
Christie Bros. et al, P. B. Church-Conoco 1	15	4363
Cox & Hawtoff, N. E. Clifton 1, sec 108	*	708
V. E. Ekholm et al, E. H. Remmington 1	*	667
Hamilton Pet. Co., J. T. Lowe 1, sec 59	*	849
L. G. Hawkins et al, L. T. Richardson 1	*	785
B. N. Honea et al, fee 14, sec 1492.	30	874
L. A. Long et al, R. Williams 2-E.	35	2553
J. E. McDonald et al, Jeffries 1, sec 58	12	844
Nash-Windfohr Oil Corp., W. S. Sims-Conoco 1	736	3771
R. J. Watson et al, Belknap 1, sec 250	*	708
Wichita Prod. Co. et al, T. J. Routon 1, sec 266	*	852

*Failures; †Junked; ¶Million cu. ft. gas.

Tyler, Texas.—Production tests were scheduled to begin late last week on two wells in the Talco field, Titus County, that will afford important southeast extensions and determine if a more prolific crude yield can be had by penetrating more than 150 feet into the Paluxy sand zone. Other active operations reveal that an offset to the discovery well is coring for top of the sand, and a west outpost in Franklin County is due to reach a decisive depth during the current week. Drilling has commenced on the first of more than a score of locations staked by independents on small sites in the Talco townsite.

The two pending completions were drilled by Humble Oil & Refining Company. Both wells are bottomed at 4003 feet sub-sea, which may temporarily become the deadline for penetration of the Paluxy section. This company's Myra Galt 1, NWc of 80-acre lease, R. I. Winn Survey A-622, situated 4300 feet southeast of the discovery well, entered the Paluxy section at 4186 feet, or 3840 feet sub-sea, and recorded an abundance of oil when formation tester was used at 4318 feet and again at 4349 feet, the present total depth. Seven-inch pipe was cemented at 4170 feet. In excess of 100 feet of oil-saturated sand was revealed in cores. Full section of Georgetown lime, amounting to 725 feet, was logged, with the base called at 4169 feet.

Humble Oil & Refining Company's Mary B. Groves 2, two locations north of the center of south line of 82.9-acre lease, Ben Jones Survey, situated about 8500 feet east by south of the discovery well, has cemented 7-inch casing at 4181 feet, with the hole bottomed at 4355 feet. Top of Paluxy section was called at 4183 feet, or 3831 feet sub-sea, and first sand at 4189 feet. Recovered cores indicated a thick section of oil sand in this test also. Top of Georgetown lime was logged at 3680 feet, with an elevation of 352 feet. It is 1440 feet south of Groves 1, now idle at 4492 feet, or 4183 feet sub-sea, with 7-inch pipe cemented at 4475 feet. It failed to cut through the fault plane to the upthrow side, and is considered eliminated as a potential producer from the Paluxy.

Magnolia Petroleum Company's C. M. Carr 1, west offset to the discovery well, encountered only 27 feet of Georgetown lime section and cut the fault plane at the lime-shale (Fredericksburg) contact at 3979 feet. It has an elevation of 371 feet. It was coring below 4150 feet in shale, according to late reports. The offset producer likewise found a thin section of Georgetown, which was topped at 3960 feet. It is doubtful if production can be developed from the Paluxy more than one location north of these adjoining tests. Using its own rotary rig, Magnolia Petroleum Company made fast time in drilling its test, which was spudded April 20.

Haynes B. Ownby Drilling Company, Dallas, has spudded Joe Easterling 1, center Lot 6, block 16, Talco Townsite. Lease includes two lots adjoining on each side. The original permit was taken out by G. L. Tatum and D. H. Dunbar, Corsicana.

Lucey Petroleum Company et al's A. W. Crawford 1, near SWc of west 25 acres of 50-acre tract, O. James Survey, Franklin County, situated about 1900 feet west by north of Humble Oil & Refining Company's flowing producer, was drilling below 3400 feet, having topped Pecan chalk at 1590 feet, with an elevation of 371 feet. Lucey Petroleum Company has filed application to drill 12 tests on an adjoining 25-acre lease. The Texas Railroad Commission has been exceedingly generous in approving permit applications involving close spacing of wells in the Talco area.

An adequate water supply to support a drilling program for the area is to be had from two six-inch lines now nearing completion from a lake west of Talco and from a creek 2½ miles south of town.

Production from Humble Oil & Refining Company's single producer is being moved via tank cars to the Gulf Coast. This company recently posted a 60-cent price for Talco crude, which tests about 26 gravity. It yields approximately 20 percent gasoline, and due to its heavy lube stock content is not likely to be attractive for skimming plant operations. Pleasant Oils, Inc.'s Carr 1, the discovery well, is selling its surplus crude to a cracking plant at Kilgore. Deliveries are made via tank cars.

Drilling contractors are receiving $3.50 per foot for contract work, according to reports.

Second Trinity Test at Cayuga

Heavy duty rotary rig was being erected at location for second Trinity sand test authorized for the Cayuga field, Anderson County, by Tide Water Oil Company and Seaboard Oil Corporation. Listed as J. N. Edens 15, it is located 3700 feet from east and 1917 feet from north line of 988.6-acre lease,

Samuel Snider Survey, about 7000 feet southwest of the partnership's Wills 21-A, which produced gas and distillate from lower Glen Rose member of the Trinity series through casing perforations at 7210-7360 feet. Wills 21-A produced 6,000,000 feet of gas and about 95 barrels of distillate daily through small choke on tubing during the winter when gas sales were high, but has since been pinched back. The new deep test will try for production on the flank of the structure, thereby affording a better opportunity to find oil in the same zone that yields gas and distillate.

C. F. Lytle et al's J. Thompson 1-T, situated on the west flank of the Mexia field, is scheduled to drill out cement plugs from 7-inch pipe landed early last week near the 6100-foot level. The hole is bottomed at approximately 6200 feet, and has an elevation of 459 feet. Owners drilled and cored through the entire Trinity section, logging oil saturation in oolitic lime member of the lower Glen Rose, and plan to plug back and perforate casing for production test by stages.

BIG FIELD EXTENDED

Spacing exceptions due to increase drilling

Tyler, Texas.—Production along the northwest flank of the Upshur County section of the East Texas field was extended about seven eighths of a mile last week by Joe A. Papadakis and others' Cone and P. K. Williams 1, SEc of 50-acre lease, Block 5, J. P. Justamente Survey, which flowed 50 barrels hourly on preliminary gauge. This outpost logged top of sand at 3733 feet, or 3337 feet below sea level, and was drilled about one foot into the oil horizon. It is below the normal water level for the field proper. However, it is not unusual to develop production at a low sub-sea depth along the northwest edge of the structure. Papadakis et al previously drilled four failures on acreage to the north and northeast in an unsuccessful attempt to broaden the productive limits of the field.

The East Texas field contributed 60 producers the past week, including 13 wells that established potentials by pumping or air-gas lift equipment. There were 74 completions the previous week. Within the past two weeks the heavy quota of completions has been accompanied by a sharp drop in field work. Survey of development activity reveals only 100 rigs in operation as compared to 130 two weeks previous. This decline is only temporary, as the Texas Railroad Commission approved within the past 10 days a large number of permit applications that are exceptions to the spacing rules.

B. F. Phillips et al's H. B. Reynolds 1, located on the east line of the W. W. Avery Survey, and on west edge of production in Gregg County, is bidding for a production extension from sand at 3597-3610 feet. It is credited with having developed about 500 feet of oil with salt water, and a standard rig is to be moved in to complete.

Proration allowable of the East Texas field was reduced from 450,633 barrels to 445,330 barrels daily effective 7 a.m. May 1, through the railroad commission having lowered the factor from 2.85 to 2.78 percent of the rated hourly flow of non-marginal wells. On the above date the field was credited with 20,405 producing wells, including 11,470 wells that are listed as marginal producers with a maximum allowable of 20 barrels daily. The change in the proration factor forced 331 additional wells into the marginal classification. Under the new schedule wells rated at less than 725 barrels per hour potential are allotted 20 barrels daily, while those rated at 1100 barrels per hour are allowed to produce 30.58 barrels daily. According to commission's proration schedule, the combined rated potential crude yield of all wells in the field amounts to 12,591,389 barrels hourly, or at rate of 302,193,336 barrels daily.

The field added 250 producers during April, according to the records of the commission, and 202 of these new completions fell within the marginal well classification. The total allowable for the month was 13,437,324 barrels.

SEEK NEW PERMIT

East Texas pipe line is asking for a change

Austin.—Yukon Pipe Line Company, at a hearing before the Railroad Commission last week, asked for a permit which would allow it to operate only as a gathering system for Wabash Refinery. Under this permit Yukon would abandon its common carrier activities.

The hearing was called by the Railroad Commission for the purpose of considering evidence purporting to show that the Yukon Pipe Line Company had run some excess oil, and for that reason its permit to operate should be cancelled.

During the course of the discussion it developed that Yukon had sold oil in small lots to several of the "Tea-Pot" refineries located in East Texas, and that it had furnished tenders with that oil.

Carroll F. Sullivant, Railroad Commission Enforcement Agent in East Texas, stated that the small plants then used tenders to move considerably more oil products than could have been derived from the oil they purchased.

W. L. Porter, owner of the Yukon said that under their plan to operate as a gathering system for the Wabash, no oil would be sold to these plants of which Sullivant had complained.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Adams & Lyles, A. Kersh 4 (34-ac)	2600	3631
R. E. Campbell et al, I. W. Wooley 1 (20-ac)	120	3687
C. A. Everts Drl. Co., S. Overton-Marathon 6 (138-ac)	3000	3620
W. H. Gant, Garvin & Wegener, Goldberry 6 (253.45-ac)	500	3585
Gilcrease Oil Co., Bradford 6 (40-ac)	2400	3652
Humble, R. A. Barksdale 12-B (114.95-ac)	225	3610
R. A. Barksdale 13-B (114.95-ac)	400	3651
C. J. Thompson 20 (116-ac)	6000	3688
V. Turner 15-A (126.26-ac)	9500	3712
Hunt Prod. Co.-G. H. Vaughn, Young 17 (125.95-ac)	8100	3676
Alex McCutchin et al, Thompson 4 (18.44-ac)	600	3701
Marathon Oil Co., Jim Lunsford 11 (70.3-ac)	3500	3710
Perot Oil Corp., Sealback 1 (53.58-ac)	80	3605
Ed. Perry, Rec. (Stewart-Egan), Pace-Bateman 5 (25.29-ac)	4200	3752
Royal Pet. Corp., J. W. McDavid 1-B (40-ac)	80	3590
Sinclair Prairie, Mayfield 18-B (149.67-ac)	6800	3624
Sun Oil Co., O. W. Knight 28 (272.9-ac)	7300	3636
T. Lanham 4 (100-ac)	250	3864
A. M. Sutton & Hawkins, R. J. Vinson 3 (21.6-ac)	160	3674
Texas Canadian Oil Corp., C. S. Gilstrap-Stephens 1 (3.15-ac)	350	3536
G. H. Vaughn Prod. Co., Alford 7 (80-ac)	1000	3808
KILGORE AREA—		
American Liberty Oil Co., Christian-Cordova 10-B (62½-ac)	150	3702
J. G. Beard et al, Elder Bros. 11 (72.16-ac)	190	3497
Gralenor Oil Co., King 11 (78.33-ac)	1000	3672
Humble, S. S. Laird 83-B (568.53-ac)	3600	3632
T. W. Lee & R. H. Williams, J. R. Carter 1-B (32½-ac)	750	3592
M. W. McVey et al, F. J. Richards 7 (145-ac)	500	3465
Magnolia, C. C. Still 13 (100-ac)	9000	3680
Natural Pet. Co., J. Henderson 2 (42.7-ac)	120	3614
J. Henderson 4 (42.7-ac)	120	3600
J. C. Potter et al, G. W. Culver-Humble 4 (25-ac)	100	3555
Rajo Oil Corp., McComic-Shell 12 (109.52-ac)	500	3732
P. F. Rutledge-C. W. Boller, Sam Carr 2 (8.04-ac)	3500	3513
Shell, J. S. King 11 (57.27-ac)	6400	3638
Tide Water, C. O. Christian 15 (117-ac)	7600	3740
LONGVIEW AREA—		
Alger Oil Co., T. Wells 12 (51-ac)	6000	3718
Arkansas F.O. Co., Calvin 14 (65.22-ac)	9700	3582
Cliff Camp Drl. Co., Castleberry 5 (41.81-ac)	120	3600
P. E. Clark et al, O. F. Medlin 1 (38-ac)	3600	3749
Conservative Oil Co., Mackey-Humble 8 (147.1-ac)	900	3680
Bert Fields et al, E. L. Walker 11 (140-ac)	2400	3670
Gulf, M. F. Barker 10 (245.6-ac)	3500	3590
Humble, W. R. Hughes 41 (245.6-ac)	3000	3682
G. W. Johnson 20 (98.9-ac)	7500	3844
J. A. Sheppard 9-A (5754-ac)	5000	3652
Edgar C. Johnston, fee 3-B (26.3-ac)	1200	3715
J. H. Sobey 1 (3-ac)	2000	3713
Lucey Pet. Co., McHaney-Loeb 11 (39.82-ac)	9200	3554
R. F. Powell-Prod. Pet. Corp., Jeter 2, blk 9 (3-ac)	1000	3618
P. F. Rutledge-C. W. Boller, P. Todd 2-A (155-ac)	900	3716
T. S. Schroeder Drl. Co., Elmira Church 4 (13.79-ac)	1500	3636
Southland Drl. Co.-United E&W Oil Co., O'Byrne 41 (304-ac)	1200	3631
Stanolind, S. G. & M. Smith 10-A (60.15-ac)	7000	3557
J. F. Wilhite 6 (29.78-ac)	8000	3696
Stanolind-Tide Water, Fonville 11 (100-ac)	9000	3650
J. C. Persons 22 (151.5-ac)	9400	3560
Sun Oil Co., E. O'Byrne 11 (310-ac)	1500	3741
The Texas Co., W. M. Clements 9 (58.81-ac)	3600	3745
J. Wood et al, C. J. Mackey 1	600	3754
Jim A. Woods et al, C. B. Mackey 2 (60-ac)	5000	3740
ANDERSON COUNTY (Cayuga)—		
Earl P. Corley et al, Hurst 1 (9¾-ac)	1500	4057
FREESTONE COUNTY—		
(Long Lake field)—		
Tide Water & Seaboard, J. L. Johnston 2 (894½-ac)	3000	5300
VAN ZANDT COUNTY (Van field)—		
Pure Oil Co., Wiley Enas 3 (30.6-ac)	750	2931
Ella York 14 (39.6-ac)	9500	2943
CHEROKEE COUNTY—		
R. L. Peveto-Mayo & Howze, C. R. Kelley 1 (66.78-ac)	*	4875
RED RIVER COUNTY—		
B. B. Orr et al, C. Hocker-Kurth Lumber Co. 1 (635-ac)	*	1205
RUSK COUNTY—		
J. W. Shipman et al, Citizens Nat'l Bank-Burton 1-A	†	3510

*Failures; †Junked; ¶Million cu. ft. gas.

New Coast Field

CALHOUN WILDCAT EXPECTED TO PRODUCE; SAXET EXTENDED

WEEKLY STAFF REPORT

Corpus Christi.—Probable establishment of Calhoun County's second oil field was the outstanding feature of another unusually eventful week in the Corpus Christi sector of the Gulf Coast. One company was troubled with three well blowouts, one resulting in a hazardous fire. Saxet field's deep Frio production was materially extended in two directions to add to the importance of that large producing district.

Plymouth Oil Company and Humble Oil & Refining Company's P. H. Welder, located two miles north of the town of Heyser and near Green Lake in Calhoun County, cored to 5474 feet in sand topped at 5452 feet and has set casing on bottom. The upper portion of the sand showed gas, but the oil saturation continued through the remainder of the sand to the total depth and a producer is anticipated.

The well is in the J. M. Rios Survey, 3336 feet north of P. H. Welder 1, an abandoned test that showed considerable oil, a little pressure and some salt water on a drill stem test at 5805-20 feet, in sand at 5815-20 feet. Including the new test, three wells have been drilled on this geophysical prospect, originally worked by Plymouth Oil Company and checked by Humble Oil & Refining Company.

Also in Calhoun County, Continental Oil Company is about ready to spud in Vandenberg 1, fourth heaving shale prospect on its Seadrift block. The well is located one mile north of the other tests.

Texon Royalty Company experienced hard luck during the week, three wells blowing out and running wild. One caught fire and destroyed derrick and rig. The latter well is the company's Rambo 1, 1/3-mile southeast of the Plymouth field in San Patricia County. The well had been drilled to 5653 feet, casing set and plugs drilled. While attempting to make a drill stem test with the aid of a sidewall packer, it went out of control. The well is making only dry gas. Late in the week it was still wild and burning.

The company's other two wild wells are in the vicinity of the Clarkwood townsite in the Saxet field, Nueces County. Mary Lingnau 1, was attempting completion at 4439 feet. Casing has been set and the plugs drilled when the well went out of control, making only gas. It is believed that the casing collapsed. After running wild two days, it was controlled and has been plugged and abandoned. McElroy 1 blew out at 4135 feet while drilling. It stuck drill stem and blew a tremendous amount water and gas. Efforts are being made to loosen the drill stem.

Morgan Gulf Oil Company's Rand Morgan 2-A, about 6500 feet southwest of the discovery Frio sand oil producer of the Saxet field and only producer at that level in the field, has been completed at 5844 feet flowing 13 barrels of oil per hour through 3/16-inch choke and showing tubing pressure of 850 pounds and casing pressure of 1000 pounds. It topped sand at 5836 feet. Southern Minerals Corporation's Masten 1, nearly ¼ mile north of the discovery well, got the sand at 5803-24 feet and on a drill stem test at that level showed 2000 feet of pipe line oil and 250 pounds pressure in 10 minutes. Casing has been set at 5814 feet. It appears as though this will be a blanket sand and will be a highly important producing area. Several deals have been made for leases in the immediate vicinity and a drilling rush is anticipated.

O. W. Killam has set casing to total depth of 3822 feet in Betty Ellich 1, nearly one mile southwest of the discovery well of the Clara Driscoll field. It drilled what appeared to be a cap at 3811-13 feet and sand just below that level. It is bottomed in shale, however. An electric formation tester was run before casing was set. A gas sand was encountered at 3247-61 feet and the first oil sand of the field was believed to have been topped just below 3694 feet.

The Plymouth field, San Patricio, continued its conservative but steady drilling campaign with several new locations and as many completions recorded during the week, all wells being in the 5600-foot sand. West of the field, Benedum and Trees' Welder 2, wildcat, has encountered difficulties in completing at 6616 feet and is cutting out liner to deepen.

Second producers in each of the two sands of the Taft field, San Patricio County, were recorded during the week. Shell Petroleum Corporation's Pullin 1 was having trouble in bringing about an oil flow from the Greta sand at 4915 feet. Humble Oil & Refining Company's Godwin 1, drilled to 4010 feet and the well flowed at the rate of 90 barrels in 12 hours through 9/64-inch choke.

Fields in Refugio and Victoria County supplied their usual quota of new producers from both the Greta and Frio sands, with no let-up in drilling activity indicated.

Shell Petroleum Corporation's C. F. Combs 2, 1175 feet southeast of the discovery well in the Mauritz field, Jackson County, is drilling below 5825 feet, having passed the producing horizon of the first producer. This apparently is another one well field as is the Vanderbilt area of the same county.

NEW McMULLEN FIELD

New locations will show outline of Bentonville

Laredo.—Two locations on trend with the newly discovered Rhodes field of southeastern McMullen County will give definite information as to the possibilities of this producing area. This field was discovered by Magnolia Petroleum Company's Minnie Kincaid 2, southeast corner of Section 86, which made a gasser in the Cole sand at 1810-22 feet after plugging back from 3153 feet. It showed a closed in pressure of 650 pounds. Opened, it showed tubing pressure of 90 pounds and casing pressure of 620 pounds.

Humble Oil & Refining Company's Rhodes 1, is located in the southwest corner of Section 17, one mile northeast of the discovery well, and will commence within a few days. Whisenant & Trenchard's Roos Brothers 1, is located 990 feet out of the northeast corner of Section 60, one mile southwest of the discovery well, and will be commenced shortly after the middle of the month.

Other wildcatting of interest in the Mirando trend is Kepley Production Company's Clara Driscoll Sevier 1, located seven miles northwest of the Driscoll field in Duval County. The well drilled to 3410 feet, plugged back to 3233 feet where casing was set. It was gun perforated at 3165-71 feet with 10 holes and has been swabbing for the past several days. It is showing considerable fluid and may develop into an oil producer to open another Government Wells sand field.

Loma Novia, Lopez, Cole and Seven Sisters fields of Duval and Webb Counties continue their heavy development campaign, contributing some 26 oil wells, two gassers and two failures during the week just closed. The oil wells showed an initial flow of 12,650 barrels per day.

BALCONES ACTIVE

Pearsall and promising wildcats of interest

San Antonio.—Completion of another producer in the Pearsall field of Frio County, setting casing in an Atascosa County wildcat, coring for the producing level in two deep Zavalla County wildcats and probable extensions to Austin chalk areas in the Guadalupe County sector, featured development work along the Balcones Fault zone during the week.

The Atascosa Trust (R. E. Lee, Trustee) U. A. Doumch 1, located three miles north of Poteet and in Survey No. 122, Atascosa County, drilled to 3521 feet, ran an electric formation testing device and is now running casing preparatory to testing. The well is at or near the top of the Austin chalk at this level and had several light showings in the cores.

In Amerada Petroleum Corporation's block in the Pearsall field, Frio County, T. G. McWilliams et al, Tract 17, south flank of the field, finally has been placed on production. The well officially flowed 108 barrels of oil in 9½ hours through ½-inch choke, showing tubing pressure of 25 pounds and casing pressure of 250 pounds. It is bottomed at 5676 feet in Austin chalk. The company has only one other rig running to the deep level. Termo

Oil Company of Texas is down about 2000 feet in a wildcat one mile west of the field.

Extending Guadalupe

Efforts were being made to extend the Zoboroski field of Guadalupe County. Louis Crouch's J. Getzke 1, east side of the field, is flowing by heads at 2250 feet in the chalk. Same operator took over the abandoned Frank Zoboroksi test, one-half mile south of the field, which had been drilled to 2722 feet after topping Edwards lime at 2656 feet. It made 3000 barrels of sulphur water per day when cleaned out. The well has been plugged back to the chalk and is showing for some sort of producer. Storage is being constructed. Just north of this field, W. J. Walton is drilling at 1720 feet in Krueger 1.

In Caldwell County, there are several wells in the various chalk fields in process of completion. Two of them have been acidized with fair results.

MORE DISCOVERIES

Mirando and Coastal area feature So. Texas results

San Antonio.—More discoveries were included in South Texas' 68 completions during the past week. They included 44 oil wells for an initial flow of 22,776 barrels, five gassers and 19 failures.

Magnolia Petroleum Company definitely established an important southeastern McMullen County structure through completion of Minnie Kincaid 2 as a gasser in the Cole sand at 1810-22 feet. It is in the Rhodes Ranch area. Also in the Mirando District, Kepley Production Company's Sevier 1, Duval County, is swabbing through perforations at 3165-71 feet in the Government Wells sand and may open a new field.

Humble Oil & Refining Company and Plymouth Oil Company's P. H. Welder 2, in the Green Lake sector of Calhoun County, is in sand at 5452-74 feet and has set casing. Morgan Gulf Oil Company's Morgan 2-A extended the 5800-foot Frio sand production of the Saxet field 6500 feet to the southwest. O. W. Killam has set casing at 3821 feet in Betty Ellich 1, wildcat one mile south of the Driscoll field. Second producers have been completed in each of the producing sands of the Taft field, San Patricio County.

PETTUS WORK UP

Beeville.—A further increase in Pettus district wildcatting is evidenced by a number of lease blocks assembled for the drilling of tests to test to the Pettus sand and below. Goliad, Live Oak and Bee counties are receiving new tests to offset the declining work in the already proven areas.

In the vicinity of George West, Live Oak County, Whisenant and Trenchard, Dirks Brothers and Herman Heep each have plans for drilling early in the summer if not sooner. This county has several more tests just starting in addition to those already under way.

In Bee and Goliad counties, already established trends of production are being followed with new locations in an effort to establish new fields.

North Pettus field, Goliad County, is the only hot spot of development, several rigs running in the east extension area.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ATASCOSA COUNTY—		
Cliff Oil Co., S. A. Joint Stock & Land Bnk 1 5793 ft n of sw cor & 1142 ft e of wl of J. B. Woodleff sur No. 246, 7½ mi e Coughran..	*	3166
BEE COUNTY—		
Dirks Bros., R. C. Harris Est 1B, C. A. Dugat sur, (West Tuleta).....	450	3913
Duncan & Perkins, P. L. Campbell 1, B.&B. sur, (West Tuleta).....	900	3933
BEXAR COUNTY—		
Dorine Oil Co., S. Tudyk 3, 330 ft sl & 990 ft el of 315-ac tr, F. Cardinas sur No. 25	*	627
Nus-Wald O&G Co., Simon Wetz 7, S. Jett sur, (Von Ormy)	6	640
CALDWELL COUNTY—		
Detroit-Texas Dev. Co., W. P. Dunlap Est. 3-A, 340 ft sel, 1300 ft nel of S. F. Sanders sur	*	2390
DUVAL COUNTY—		
Atlantic Oil, J. F. Welder 9D, sec 113, (Seven Sisters)	500	2477
Bridwell Oil Co., Bishop Cattle Co. 9, sec 113 (Loma Novia).....	425	2710
M. C. Hubberd 7B, sec 75 (Loma Novia)	40	2639
Buchanan & Blanco, J. F. Welder 2B, sec 591 (Seven Sisters)	500	2503
Cabildo Oil Prop., Inc., S. S. Tinney 1, 900 ft el 1000 ft sl of sur 8, 2 mi ne Benavides	*	4004
Diamond Half Oil Co., R. Serna., Jr., 4, sec 385, (Seven Sisters)	800	2220
Dulce Oil Co., R. Serna, Jr., 2B, sec 384, (Seven Sisters)	500	2210
Duval Oil Corp., Bishop Cattle Co. 22, sec 59, (Loma Novia)	250	2550
Highland Oil Co., M. C. Hubbard 1B, sec 72, (Loma Novia).....	1488	2736
M. C. Hubbard 10, sec 72, (Loma Novia)	240	2757
Humble, M. C. Hubberd 12A, sec 84, (Loma Novia)	275	2833
M. C. Hubberd 61B, sec 72, (Loma Novia)	425	2780
R. Serna, Jr., 12A, sec 384 (Seven Sisters)	550	2481
R. Senra, Jr., 7B, sec 384 (Seven Sisters)	475	2494
L.&P.T. Wright 3, sec 118 (Seven Sisters)	350	2528
Magnolia, DCRC 3, sec 95 (Piedre Lumbre)	†	1979
C. W. Hahl 31, sec 67, (Loma Novia)	650	2593
Reliance O&R Co., J. F. Welder 6, sec 381 (Seven Sisters).....	525	2417
Reynosa Oil Co., T. H. Bailey 1, sec 62 (Loma Novia)	*	lcn.
Rosan Oil Co., M. C. Hubbard 11, sec 84 (Loma Novia)	750	2814
Santa Clara Oil Co., J. F. Welder 31, sec 383 (Seven Sisters)	850	2463
J. F. Welder 3C, sec 381, (Seven Sisters)	420	2437
Shell Petr. Corp., V. Mendoza 5, sec 58, (Loma Novia)	10	2722
Standard of Kansas, W. K. Hoffman 2, sec 118 (Hoffman)	500	2875
The Texas Co., Hugo Wendt 28, sec 68, (Loma Novia)	192	2734
Hugo Wendt 235, sec 68 (Loma Novia)	425	2771
Valley Osage Oil Co., Wm. Hubberd 4, sec 75 (Loma Novia)	275	2619
FRIO COUNTY—		
Amerada Petr. Corp., T. G. McWilliams et al (tract 17) 660 ft nl (road, 721 ft el & wl of tr 17, T. M. Tigerina sur No. 300 (Pearsall)	320	5676
GOLIAD COUNTY—		
Jane Oil Co., O. A. Mudd 6, B&B sur 25 (N. Pettus)	450	3722
Henshaw Bros., Welder & Lackey 1, J. Gomez sur, (N. Pettus).....	¶20	3692
Magnolia, S. J. Tipton 1, 330 ft nw along line of tr, A. S. Thurmond sur, the sw/cor of tr, thence 330 ft ne at rt/a, near common cor of Karnes-DeWitt-Goliad counties ..	*	4643
H. T. Porter et al, J. R. Kauffman 1, 330 ft swl, 150 ft nwl of 40-ac lse, Trevino sur, (Hords Creek).....	*	lcn.
GUADALUPE COUNTY—		
Clark & Gay, Waldrip 1, G. Allen sur (Staples)	*	927
HIDALGO COUNTY—		
H. T. Porter et al, C. H. Swallow 1, 600 ft nl & el of lot 5, Porter subd, Minnesota-Texas Land & Irrigation Co. tr	*	lcn.
JIM WELLS COUNTY—		
G. M. Richardson, J. E. Garrett 1, 1980 ft sl, 1640 ft el of sec 5, N. G. Collins Gr.	*	6250
McMULLEN COUNTY—		
Magnolia, Minnie Kincaid 2, 330 ft sl & el of sur 86, PB 1822, discovery well Rhodes field	¶20	3153
NUECES COUNTY—		
Cherokee Oil Co., Cowles & Jenkins 1, Villareal sur (Saxet Heights)..	425	4080
Cherokee Oil Co., P. G. Werner 1, Ellendale Gardens No. 1, (Saxet Heights)	425	4081
J. K. Culton, H. B. Baldwin 5, Russell Garm lots, blk 20 (Saxet Heights)	650	4096
Morgan Gulf Oil Co., Rand Morgan 2A, sec 403, (Saxet)	625	5844
Richardson Pet. Corp., Poth 1, (Saxet Heights)	350	4077
Taylor Refining Co., Corpus Christi Golf Club 4, Kinney tr (Saxet Heights)	450	4079
Taylor Refining Co., R. W. Kaler 1, share 3, Kinney tr (Saxet Heights)	525	4076
Texon Drilling Co., Mary Lingnau 3, J. Ward sur 402, (Saxet)	†	4439
REFUGIO COUNTY—		
Hewitt & Daugherty, M. F. Lambert 23, C. Hardwick sur (Greta) 1500		5919
United Prod. Corp., W. J. Fox 17, Wm. Hews sur (Fox), perf csg 4968-84	¶40	6259
STARR COUNTY—		
Griffin & Kimbrough, Guerra 1, scutheast cor of sh 298, por 69, Mier Juris	*	lcn.
Porter & Pickens, Garcia Lnd & Cattle Co., lot 1, Porc 100 (Samfordyce)	200	2797
TRAVIS COUNTY—		
G. A. Art, Rolff 1, 454 ft nel, 250 ft nwl of 100-ac tr in Thos. Hancock No. 20	*	1280
VICTORIA COUNTY—		
American Liberty, A. Gaugler 3, Manchola sur, Ab 87 (Coleto Creek)	300	2880
Barnsdall & Costa, J. S. Wheless 3, J. M. Brownson sur (Placedo)....	350	4766
Eastern Tex. Pet, J. Hosek 1, SA& MG sur 7, (Placedo)	175	4773
WEBB COUNTY—		
Mills Bennett Prod. Co., A. S. Billings 9, sec 113 (Lopez)	375	2159
F. L. Garcia 10, sec 112 (Lopez)..	620	2193
Hunter Co., Incorp., A. S. Billings 7, sec 113 (Lopez)	¶25	2209
Payne & Martinez, Mrs. M. I. Perry 1, 150 ft nwl & ne, sur 771.....	*	lcn.
H. M. Reed et al, S. Benavides 2, blk 318, Hale sub, Arispe Gr (Cole)	250	2887
La-Tex Oil Co., Lone Star Construction Co. 9, 330 ft sel, 7700 ft nel of porc 12, sur 12	*	2004
WILLIAMSON COUNTY—		
Glass Bros., A. Albert 1, 723 ft el, 1570 ft sl of 265-ac tr in P. Coursey sur	*	785
A. T. McGee, Albert Pfluger 3, White sur (Byersville)	*	Inc.
WILSON COUNTY—		
Comet Oil Co., Jim McDaniel 1, 1200 ft swl, 330 ft nwl of 343-ac tr in Conception Botello sur.....	*	lcn.
ZAPATA COUNTY—		
S.R.C Oil Corp., Mrs. I. G. Trevino 16A, blk 9, sur 66 (Escobas)	25	1290

*Failures; †Junked; ¶Million cu. ft. gas.

WATER SHORTAGE

Corpus Christi.—City needs will force the Corpus Christi water department to take oil wells in the Saxet field off the treated water line within the next three weeks. This became known following a survey showing the increased amount of work in the field and greater need for water within the city.

In view of the above situation, the field may face a shut down. J. D. Browning has applied for permission to take water from Southern Alkali Corporation line as long as it is available. In addition, water would be taken from below the dam on the Nueces river.

Willis Gas Strike

CONROE TREND'S LATEST HIT MAY BE DRILLED DEEPER

By GENE R. SMITH, Consulting Geologist

Houston.—Interest in the Conroe trend has been revived by the discovery of a commercial gas well near the town of Willis in northern Montgomery County. The well, Mid-Texas Oil Company's Security Trust Company 1, Lot 23, Block C 1, G. W. Lonis Survey, in a drill stem test at 4300 feet looked good.

Difficulty was experienced in finding a seat that would hold the packer, with the result that the tool broke through its seat five times before finally holding, and admitted a quantity of drilling mud into the test which ordinarily would not have been present. In all, five fourbles of mud were found in the drill stem later. Against these adverse conditions, however, the gas pressure of the well rose from 20 pounds in 1½ minutes to 140 pounds in 8½ minutes; against ⅛-inch top choke, the pressure rose to 240 pounds. The gas, although not what might be termed wet, had a good oil, odor and probably has a good fuel content, although it was not tested. No salt water was in evidence. These is a possibility the well will make some dissillate, and is regarded as a certain commercial gas well.

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Hastings field, Brazoria County, was extended 950 feet east May 8 when Stanolind Oil & Gas Company completed J. Sneed 1, J. Sneed Survey, for 438 barrels daily from the regular pay horizon at 6080 feet. The well came in flowing oil through a ¼-inch choke with a tubing pressure of 725 pounds; casing pressure was 1200 pounds. Seven-inch casing was set at 6019 feet.

Stanolind Oil & Gas Company's Brown B-2, on the north flank of the western part of the field, H. & T. B. Survey, No. 29, was completed at 6080 feet for 612 barrels daily of pipe line oil through ¼-inch choke, with a tubing pressure of 900 pounds and a casing pressure of 925 pounds. Brown B-2 topped the Discorbis at 5005 feet, Heterostegina at 5395, and the Marginulina at 5490 feet. Stanolind also completed Miller 3 during the week. The test flowed 550 barrels in 22½ hours through ¼-inch choke with a tubing pressure of 1200 pounds and a casing pressure of 1175 pounds. The hole was carried down to 6066 feet and 7-inch casing was cemented at 5996 feet. Miller 3 topped the Discorbis at 5160 feet, Marginulina at 5610, and the Heterostegina at 5490 feet.

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Nome prospect has created considerable interest on the Texas Gulf Coast for some time. Sun Oil Company's Long 1, J. Blair Survey, was drilled to 9045 feet and completed as a dry hole. Sun drilled on this test over two years. It yielded some oil and showed gas pressure as high as 750 pounds on several drill stem tests at from 5963 to 6072 feet. It also had had several small oil shows around 6400 feet. Salt water was swabbed from 6000 feet, but the casing pressure was 800 pounds and tubing pressure 1000 pounds. Several settings were made from 8407 to 8697 feet, but salt water was swabbed. The wildcat tried to blow out several times. Sun Oil Company's Paggi 1 yielded two joints of 28-gravity oil but very little gas from 6003 to 6023 feet. The hole was carried to 7277 feet and abandoned. The Texas Company's Vevil 1 also encountered oil showings from 6182 to 6194 feet.

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Willis Gas Strike

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Silsbee prospect in Hardin County. Burrell A-1 will be the second wildcat drilled by the company on the prospect. The wildcat is 1500 feet due north of Burrell 1 in the A. A. Burrell Survey.

A new wildcat location for Tyler County was announced by McCarthy & Nixon during the past week. D. D. Kountz 1 will be drilled 1500 feet north, 60 degrees east from the northeast corner of the E. Smith Survey.

Jack Fraziers' O. Sternenberg 1, Kountz prospect, J. Houston Survey, Hardin County, was abandoned at 7001 feet after failing to find production in the Cockfield formation. The operators cored salt water sand from 6725 to 6754 feet and from 6907 to 6922 feet. O. Sternenburg 1 topped the Warreni at 5130 feet, Massilino Pratti at 5785 feet, Hockleyensis at 5860 feet, and the Cockfield at 6679 feet.

Three Wells at Pickett Ridge

The northwest side of Pickett Ridge field, Wharton County, looked disappointing May 8 when The Texas Company's Merek 2, 1700 feet northwest of Merek 1, George Reynold Survey, was drilling below 4659 feet in lime and reported to have failed to have picked up any of the sands found in Merek 1. On geological markers, the well is reported to be running lower than the average run of wells in Pickett Ridge field. The sand in Merek 1 was found around 4622 feet.

The Texas Company added three new completions to the Pickett Ridge field, last week when Pierce Estate A-14, A-17 and A-18 were completed in the regular pay horizon. Each well is on the flank of the field. Pierce Estate A-14, was completed at 4709 feet for 18 barrels a day through a quarter-inch choke. Tubing pressure was 1575 pounds; casing pressure, 1820 pounds. It is considered a gas well. Pierce Estate A-17, was finaled for 295 barrels daily through a quarter-inch choke with tubing pressure of 1250 pounds and casing pressure of 1655 pounds. The hole was drilled to 4709 feet, and seven-inch casing was cemented at 4697 feet. Pierce Estate A-17 topped the Discorbis at 1250 feet and the Heterostegina at 4290 feet. Ground elevation is 101 feet. Pierce Estate A-18, was completed at 4713 feet for 14 barrels per hour through a quarter-inch choke. Tubing pressure was 1275 pounds; casing pressure, 1675 pounds. The allowable for this well probably will be 150 barrels daily.

Crown Central Oil Company has made location for J. J. Rod 1, near Pickett Ridge field. It is 368 feet northeast of the southwest line and 330 feet northwest of the southeast line of Lot 13 in the southwest corner of Lot 73 of the W. C. R. R. Survey, Section 73, abstract 368.

Southeast of Pickett Ridge and in the Withers field, Wharton County, The Texas Company completed Pierce Estate C-4 for 215 barrels daily through a quarter-inch choke from 5560 feet. Tubing pressure was 500 pounds; casing pressure, 625 pounds. Seven-inch casing was set at 5551 feet. Sand showing oil was cored from 5550 to 5556 feet.

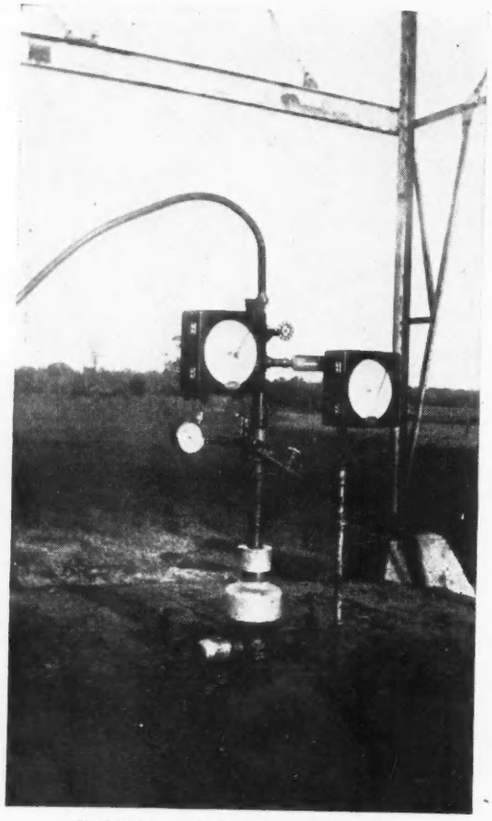
On Blue Basin prospect, J. Pirie Survey, Wharton County, Pure Oil Company's E. Page 1, was cutting 900 feet of 6⅝-inch casing, which was set below the 9⅝-inch casing, to make another drill stem test at 7700 feet. Last week the crew perforated casing 7680 to 7700 feet with 30 shots. A drill stem test made in 32 minutes through a quarter and three eighths-inch chokes showed 10 pounds pressure and 20 fourbles of mud cut with gas.

After opening up a new gas field near Lake View, Wharton County, the previous week, Smith & McDannald have made location for W. Presmeyer 1, in the area. The test is a north and west offset to Mitchell 1, the discovery well. It is 300 feet from the southwest line and 600 feet from the southeast line of the H. & T. C. Survey, Section 10.

Smith & McDannald's Mitchell 1, H. & T. C. Survey, Section 8, which opened the new field for Wharton County, was completed during the past week making 2,700,000 cubic feet of gas daily through a quarter-inch choke. Shut in pressure on the well was 1350 pounds. The well was completed through perforations from 3185 to 3199 feet.

Gulf Oil Corporation's Fairfield 1 showed a 2300-pound pressure during the past week when a Christmas tree was hooked up on the stuck drill stem. After showing pressure the well was allowed to set for several days. A few days

ON DISPLAY



Field View G-P-I System Hook-up

G-P-I SYSTEM

Of Flowing Oil Wells

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The G-P-I Patented System for Flowing Oil Wells is on exhibit with an operating model, Booth 27, California Building, Tulsa Exposition, this week so that Engineers and Production Superintendents can readily see the many advantages it offers over conventional gas lift methods. Glass Casing and transparent Tubing and Valves will show you the modern principle involved. For an uninterrupted study of this G-P-I model we invite you to make appointments with G-P-I Engineers in charge of the Exhibit.

Gas Power-Incorporated

SOUNDNESS OF DESIGN HOUSTON G-P-I SYSTEM TEXAS *EXPERIENCE IN HANDLING*

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later it was opened again and flowed salt water. At the end of the week the crew was trying to pull the stuck drill stem loose.

The previous week Fairfield 1 had drilled into a sand at 8396-98 feet. While coming out of the hole it blew out and was wild for 30 minutes. After getting Fairfield 1 under control a production test was made which showed gas and salt water.

Fairfield 1 is reported to be in the Jackson formation which was topped around 8393 feet. The Vicksburg was topped at 8277 feet. The wildcat is approximately 4700 feet due north of Wilkes Smith 1, also in the A. Robeson Survey, which was abandoned some time ago.

Harrison and Abercrombie are moving in materials for Armstrong Plantation Fee 1, the third test to be drilled in the Old Ocean field, Brazoria County. Armstrong Plantation Fee 1 is 2916 feet from the southeast line and 4833 feet from the southwest line of Polly and Chance Survey, abstract 119.

Humble Oil & Refining Company's Bayou Development Company B-2, J. Sellers Survey, Dickinson field, Galveston County, was abandoned last week at 8268 feet after plugging back from 9107 feet. The well tested the deep sand found in the field at 9107 feet. It carried salt water.

Bayou Development Company B-2, was plugged back and a number of drill stem tests were made which showed water. The last drill stem test was made from 8255 to 8290 feet in 34 minutes through quarter-inch chokes. It showed 18 stands of salt water and a 450-pound pressure.

Humble Oil & Refining Company has made location for Bayou Development Company B-3. It is 230 feet west and 3000 feet north of the southeast corner of Lot 18, J. Sellers Survey. It is 2650 feet northeast of Bayou Development Company B-2.

Five new commercial oil wells were completed in Anahuac field, Chambers County, by Humble Oil & Refining Company during the past week. The operators completed Tyrell 2, White 9, Grippon 2, Clark 10 and Engles 12.

Tyrell 2, was completed at 7084 feet in oil sand topped at 7004 feet. Seven-inch casing was set at 7042 feet. Tyrell 2 was completed for 27 barrels per hour through a quarter-inch choke. Tubing ratio was 345 to 1. The well topped the Discorbis at 5907 feet, Heterostegina at 6279 feet, and Marginulina at 6523 feet.

White 9 extended the field one location north. It was completed for 11 barrels per hour through ¼-inch choke.

Tubing pressure was 450 pounds. The gas/oil ratio was 226 to 1. White 9 drilled to 7107 feet after having topped the oil sand at 7095 feet. Seven-inch casing was set at 7096 feet. White 9 topped the Discorbis at 6062 feet, Heterostegina at 6392 feet, Marginulina at 6728 feet, and the Frio at 7095 feet.

Grippon 2 made 20 barrels per hour through a quarter-inch choke from 7095 feet after topping the oil sand at 7053 feet and setting seven-inch casing at 7060 feet. Tubing pressure was 685 pounds; gas/oil ratio was 685 to 1. Top of the Discorbis was found in Grippon 2 at 6020 feet, Heterostegina at 6380 feet, Marginulina at 6651 feet, and Frio at 7059 feet.

Clark 10 was finaled for 28 barrels per hour through a quarter-inch choke. Tubing pressure was 1100 pounds. The gas/oil ratio was 462 to 1. Top of the gas sand was encountered at 6909 feet, and top of the oil sand at 7033 feet. Seven-inch casing was set at 7042 feet. Bottom of the hole is 7082 feet. Clark 10 topped the Discorbis at 6126 feet, Marginulina at 6549 feet, and Frio at 6909 feet.

Engles 12 was drilled to 7082 feet after having topped the oil sand at 7005 feet. Seven-inch casing was set at 7046 feet. Engles 12 came in for 28 barrels per hour through a quarter-inch choke. Tubing pressure was 900 pounds; casing pressure was 1025 pounds. The well topped the Discorbis at 5962 feet, Heterostegina at 6353 feet, Marginulina at 6655 feet and the Frio at 7016 feet.

Eight new locations were made in Anahuac field during the past week. Sun Oil Company's White 19 will be drilled 933 feet west of White 18 and 467 feet south of the north line of J. McGehey Survey. The remaining seven locations were made by Humble Oil & Refining Company and consists of: J. E. Broussard 11, 466 feet east of the west line and 870 feet south of Broussard 1, H. & T. C. Survey, Section 63; J. J. Clark 13, 466 feet south of the north line and 491 feet east of the west line of H. & T. C. Survey, Section 57; A. D. Middleton 20, 466 feet west of the east line and 860 feet south of Middleton 2 in the H. & T. C. Survey, Section 64; Middleton 21, 466 feet south of the north line and 491 feet west of the east line of H. & T. C. Survey, Section 51; Lord 2, 993 feet north of the south line and 466 feet east of the west line of H. & T. C. Survey, Section 60; Middleton 19, 466 feet north of the south line and 873 feet east of Middleton 1 in the H. & T. C. Survey, Section 58; J. C. Wilcox 3, 466 feet north of the south line and 1650 feet east of west line of H. & T. C. Survey, Section 50.

Salt Dome Oil Corporation's Lawrence 2, Cotton Lake prospect, S. Barrow Survey, Chambers County, was setting liner from 6651 to 6660 feet at the close of the week and will make another production test. The liner will be perforated and the same sands which showed oil in commercial quantities some time ago will be tested.

After drilling below the regular producing horizon Stanolind Oil & Gas Company's State 1, south offset to the discovery well of Turtle Bay field, Chambers County, was completed last week at 6618 feet after several attempts were made to shut off the salt water. The hole had been carried down to 7442 feet, but after plugging back to 6618 feet was completed for 160 barrels of oil and 12 barrels of salt water daily through a quarter-inch choke. Tubing pressure was 175 pounds; casing pressure was 850 pounds.

TEXAS GULF COAST
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Clark 10	672	7082
Engles 12	672	7082
Grippon 2	480	7095
Tyrell 2	648	7034
White 9	264	7107
BIG CREEK—		
Gulf, Davis 68	200	4528
BLUE RIDGE—		
Mills Bennett, Luscher 4	*	5319
Trans-State Oil Co., Blakley B-3	600	3975
CONROE—		
Sun, Keystone Milles 18	203	5082
DAMON MOUND—		
H. & N. Oil Co., Wisdom 15	*	968
DICKINSON—		
Humble, Bayou Development Co. B-2	*	9107
Pure, Schelor 3	80	8052
ESPERSON—		
General Crude, Esperson 24	450	2844
HASTINGS—		
Stanolind, Brown B-2	612	6080
Miller 3	600	6066
HIGH ISLAND—		
Stanolind, Cade A-55	184	5126
HUMBLE—		
Wilson Oil Co., Burt 4	168	2365
MANVEL—		
Uscan Oil Co., Wilson 1	465	4015
MARKHAM—		
Hamil & Hamil, Hudson 4	72	4369
PICKETT RIDGE—		
Texas Co., Pierce Estate A-14	18	4709
Pierce Estate A-17	295	4709
Pierce Estate A-18	336	4713
SARATOGA—		
H. E. Hines, Caswell Estate 2	*	4945
SOUTH HOUSTON—		
Dick Schwab, Bennett 1	410	4776
Stanolind, Drilling District 4	112	4835
Drilling District 20	¶4	4602
TOMBALL—		
Humble, Holderrieth 4	576	5561
TURTLE BAY—		
Stanolind, State 1	160	6618
WITHERS—		
Texas Co., Pierce Estate C-4	215	5560
HARDIN COUNTY—		
Jack Frazier, Sternenberg 1, Kountz prospect, J. Houston sur	*	7001
MATAGORDA COUNTY—		
Continental, Feife 1, Citrus Grove, J. S. Chriswell sur	*	7620
MONTGOMERY COUNTY—		
Wm. Thompson, Scott 2, Dacus area, T. Sheppard sur	*	3685
WHARTON COUNTY—		
Smith & McDannald, Mitchell 1, Lake View area, H. & T. C. No. 8	¶2½	3199

*Failures; †Junked; ¶Million cu. ft. gas.

SHELL WILDCATS
Hold attention of South Louisiana operators

Lake Charles.—Shell Petroleum Corporation has two important tests drilling in the Louisiana Gulf Coast: Colonial Sugar 1, Convent prospect, St. Mary Parish, and Lacassine 1, Hayes prospect, Jefferson Davis Parish. Both wildcats have tried to blow out and both have shows of oil sand while taking cores in the different formations.

Shell Petroleum Corporation's Colonial Sugar 1, Section 5-12s-5e, was coring ahead May 8 at 6852 feet in shale with streaks of lime after having a sand showing oil at 6829 feet. Below this depth, from 6829 to 6834 feet, sand with streaks of shale was cored, and from 6834 to 6852 feet shale and lime was cored. On a drill stem test from 6554 to 6559 feet the operators recovered 26 stands of salty mud with no oil showings. The test was made through quarter-inch chokes in six minutes. The last drill stem taken was from 6813 to 6829 feet and 44 barrels of salt water with a scum of oil and gas was recovered. The well showed no pressure.

Shell Petroleum Corporation's Lacassine 1, Section 20-11s-5w, was circulating mud at 9327 feet at the end of the week. The well has made several heads of gas, and it is reported that the gas volume is increasing steadily. This wildcat tried to blow out a number of times, but has been brought under control in each instance. While drilling to 9802 feet a sand was encountered at 9344 feet, and while coming out of the hole to core the well tried to blow out

and showed oil and gas. The hole bridged. The hole was drilled down to 9802 feet, where the drill stem stuck. At this time the crew was drilling with open hole. The well was plugged back to 8129 feet and casing set. Upon redrilling to 9327 feet Lacassine 1, tried to blow out again.

Tepetate Partly Defined

The east side of Tepetate field, Acadia Parish, was definitely defined last week when Loffland Brothers' L. C. Bowles B-1 extension test, was abandoned at 8703 feet. Bowles A-1 had been abandoned the previous week.

L. C. Bowles B-1 had sand and shale at 8262 feet, but failed to show anything. The hole was drilled into the Vicksburg formation to 8703 feet. The test topped Eponides at 6970 feet, Heterostegina at 7082, and the Vicksburg at 8505 feet.

On the west side of Tepetate General Crude Oil Company's Vincient 1, Section 31-7s-2w, was drilling in shale at 8311 feet at the end of the week, without having picked up regular pay horizon in the Tepetate field. The well is reported to be running over 100 feet higher than any well in the field.

Continental Oil Company on May 7, was preparing to complete Sonnier 1, Section 29-7s-2w, at 8317 feet. The operators topped a gas sand at 8228 feet and the oil sand at 8298 feet. At the end of the week tubing was being run to give the well a production test. Sonnier 1 topped the Eponides at 6820 feet.

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Continental Oil Company has made location for T. Ortego 1 and Homeseekers Development Company 4, Ortego 1 is in the Center of the N½ NW¼ SW¼ of Section 28-7s-2w. It is an offset of A. Ortego 1. Homeseekers 4 is in the center of S½ SW¼ SW¼ NE¼, Section 29-7s-2w. It is an offset to A. Ardin 1.

North of the discovery well at St. Martinville, St. Martin Parish, Continental Oil Company's Fee 1, Section 18-11s-6e, was plugged back to 7373 feet after drilling to 8150 feet and finding the hole 10 degrees off vertical. It is believed that the operators will now test the sand from 7394 to the bottom of the hole.

Tide Water Oil Company's Smede 2, 660 feet south and west of the discovery well, Section 57-11s-6e, was completed during the past week finding from 6640 to 6650 feet a new gas sand for the field. The well was making gas through a separator with no oil on 5/32-inch choke. Tubing pressure was 2075 pounds; casing pressure, 2100 pounds.

Field and Wildcat Locations

Cavalier Oil Company has made location for a wildcat in East Baton Rouge Parish. Vignes 1 is 300 feet east and 330 feet south of the northwest corner of the Vignes tract in Section 40-8s-3e. It is northeast of the town of Nettie.

John Cartwright's Meraux Nunes 1 is a new wildcat location for the Louisiana Gulf Coast. It is 660 feet south of the northwest corner and on the west line of Section 10-13s-12e, being east of New Orleans.

The Texas Company has made location for State Wax Lake 1 on the Wax Lake prospect in St. Mary Parish. It is in the northeast corner of Section 40-17s-9e. The Texas Company acquired considerable acreage in Wax Lake from the state of Louisiana in 1935 which carried a drilling obligation. Pure Oil Company drilled one dry hole in the area, its State Wax Lake 2 being dry at 5902 feet.

In Vermillion Parish, Del Shel Exploration Company has made a second location and Jefferson Island Dome. T. J. Landry 1 is 2003 feet south of the north line and 150 feet west of the east line of Section 1-13s-4e. The same operator's Delcambre 1, Section 62-12s-5e, has been shut down for some time at 2704 feet.

SOUTH LOUISIANA
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BAYOU MALLET—		
Superior, Bradley 2	120	7000
DARROW—		
Humble, Community 4	*	lcn.
Community 11	*	6037
FOUR ISLAND—		
Texas Co., L. L. E. Four Isle 9	*	lcn.
GILLIS—		
Union Sulphur, Powell 6	540	6715
Powell 7	900	6731
LAKE BARRE—		
Texas Co., State Lake Barre 39	1775	3774
LEESVILLE—		
Texas Co., L. L. E. Leesville 46	1096	4511
PORT BARRE—		
Pan American Prod. Co., Watkins 1	*	6193
SWEET LAKE—		
Pure, Stanolind 12	*	7701
TEPETATE—		
Continental Oil Co., A. Young 1	780	8318
Loffland Bros., L. C. Bowles 1-B	*	8703

*Failures; †Junked; ¶Million cu. ft. gas.

Leasing Boosted

PERMIAN SHOWING IN ARKANSAS INFLUENCES LOUISIANA INTEREST

WEEKLY STAFF REPORT

Shreveport.—Discovery of a saturated gas in the upper part of the Permian lime at 4900 feet in Section 27-15-15, Ouachita County, Arkansas, one mile northeast of the shallow Smackover field, has not only spurred leasing activity in South Arkansas and North Louisiana for possible Permian production, but has given impetus to the procedure that had already arisen to some extent for companies to lease for possible Trinity production around the flanks of present shallow fields.

The old Homer field, Claiborne Parish, that reached its height in 1919 and 1920 and which produces from the Nacatosh and Blossom, and still has approximately 2500 barrels of shallow production daily from stripper wells in those horizons, continues to intrigue companies and individuals with its possibilities of carrying deeper production around its flanks. The theory that Homer's structure is due to a deep-seated dome has come to be more popular and the leasing play around its flanks continues to gain momentum. Gulf Oil Corporation has approximately 3000 acres around this field's north and east flanks; Sun Oil Company has over 1000 acres centering in township 21 north, range 7 west, on the west flank and H. L. Hunt, Incorporated, also has taken several hundred acres on that flank. Langford and Martin have taken over 1000 acres in township 21 north, range 8 west, with an obligation to drill a 3500-foot test.

Three companies continue leasing in Bienville Parish in the North Louisiana Basin despite the fact that the lease play southeast from Smackover toward the Monroe Uplift due to the Permian lime discovery at Smackover continues to gain favor. In Bienville Parish, Standard Oil Company and Shell Petroleum Corporation continue to add to their holdings in township 18 north, range 8 west, and Devonian Oil Company is leasing in townships 17 and 18 north, ranges 7 and 8 west.

In Bossier Parish, Roy Bolinger, acting for Gulf Oil Corporation, has assembled approximately 3500 acres in townships 22 and 23 north, range 13 west. H. L. Hunt, Incorporated, continues to lease around the old shallow Cartersville oil-gas field in townships 22 and 23 north, range 11 west. Stanolind Oil & Gas Company recently completed a profile map from the center of Bossier Parish in township 21 north, range 13 west, to the Arkansas state line.

In Caddo Parish, Roy Raines and associates are assembling a block in townships 18 and 19 north, ranges 15 and 16 west, with a drilling obligation to spud a 6000-foot test by next July 12. Two major companies have shooting crews in Caddo Parish, Gulf Oil Corporation's unit being in township 15 north, range 16 west, southwest of Greenwood, and Standard Oil Company of Louisiana's being in township 15 north, range 12 west. A great lease play developed from a reported showing of oil below the anhydrite at 4879 feet in Pyramid Oil & Gas Company's Wheeler A-1, Section 16-18n-16w, Caddo Parish, last week. Just across the Texas line and on the south flank of the old Bethany gas field, Panola County, Shell Petroleum Corporation for several weeks has had a seismograph crew at work and southeast of Carthage in the same county, a Geophysical Service, Incorporated, unit is at work.

W. F. Hyde of Shreveport has assembled a 4000-acre block centering around Section 26-11n-11w, DeSoto Parish, with a drilling obligation to spud by June 15. In LaSalle Parish, around the southeast end of Catahoula Lake, J. E. Childers of Dallas, Texas, has assembled 4000 acres centering in Section 24-6n-2e. In Jackson Parish, Gulf Oil Corporation has a shooting crew in township 14 north, ranges 1, 2 and 3 west. Gulf Oil Corporation has also been taking some leases in Lincoln Parish in township 20 north, range 4 west.

Due to the Permian lime discovery at Smackover, Arkansas, United Gas Public Service Company which has an 8000-acre block under lease centering in Section 3-22n-7e, Morehouse Parish, is adding to this block. In Natchitoches Parish in the vicinity of several interesting shallow tests, Dr. W. N. Hankins and associates of Shreveport have 5000 acres for a 3000-foot test, the block centering in Section 19-1n-10w.

Another result of the Permian lime gas discovery at Smackover is the leasing of scattered tracts in Ouachita Parish in township 18 north, range 1 east by Sun Oil Company.

In Red River Parish, T. B. Shaw of Fort Worth, Texas, has assembled a block northwest of Coushatta and centering in Section 34-13n-10w, for a proposed 6000-foot test. In southern Sabine Parish, in townships 5 and 6 north, ranges 9 and 10 west, south of the Angelina-Caldwell Flexure, Strake Oil Corporation of Houston, after extensive exploration work has turned back to the land owners approximately 41,000 acres, most of which was Peavy-Wilson Lumber Company fee. In the same parish, Standard Oil Company of Louisiana recently took some leases around Section 35-8n-13w.

In Union Parish, in township 22 north, range 1 west, north of Spearsville, R. W. Rhodes has completed a 10,-

Three Wildcats Show

CADDO, LINCOLN, WEBSTER TESTS LOOKING FAVORABLE

Shreveport. — Three wildcat tests showed for possible gas or oil production in the Glen Rose below the anhydrite last week in North Louisiana.

Pyramid Oil and Gas Company's (Belchic-Laskey) Wheeler A-1, Section 16-18n-16w, Caddo Parish, Blanchard district, logged base of massive anhydrite at 4704 feet, with elevation of 250 feet, and logged porous Coquina lime with a gas and distillate showing in what corresponds to the Dees sand at Rodessa from 4826 to 4849 feet. Later it logged dense lime at 4849 to 4854 feet and from 4871 to 4879 feet it logged lime with the following porosity determinations: 4871 to 4872 feet, seven percent porosity; 4872-75 feet, no determination of porosity, and 4975-79 feet, 12.47 percent porosity. The test is coring ahead. United Gas Public Service Company recently bought half interest in this block after a seismograph survey.

In Lincoln Parish, five-eighths of a mile north of Fowler 1, in the same section completed at 5300 feet as a wet gasser in oolitic lime of the Glen Rose below anhydrite, Lide and Greer's Simmie Gardner 1, Section 10-17n-4w, logged a saturated lime showing wet gas at 5701-42 feet and is drilling ahead to explore to the Travis Peak before coming back to present horizon to test, it being a test for oil. Elevation is 268 feet. Electrical tester was run to test the showing at 5701 to 5742 feet.

In Webster Parish, J. P. Evans' Crichton 1, Section 35-18n-9w, near Heflin, with elevation of 214 feet, logged what corresponds to the Hill horizon at Rodessa just above 5460 feet and may set casing and attempt to bring in the well as a wet gasser at that level. Base of massive anhydrite was 5189-98 feet.

000-acre block. In the same parish, Standard Oil Company of Louisiana has a seismograph unit working in township 21 north, range 1 west.

Centering in township 21 north, ranges 10 and 11 east, West Carroll Parish, a short distance north of the shallow Floyd gas field in East Carroll Parish, Zeke Lohman of Shreveport and associates have assembled a 6000-acre block for a 6000-foot test to spud by May 20.

Conserve Upper Gas

United Gas Public Service Company, which recently announced plans for improving its extraction plant at Myrtis, Section 2-22n-16w, Caddo Parish, to bring it to a capacity of 125,000 gallons daily, which will necessitate the laying of approximately eight miles of gathering lines to collect the gas from oil wells that yield much gas at Rodessa, plans to close in its wells that produce gas from the Hill, Gloyd and Dees gas horizons. Only the gas from the Young horizon oil-gas wells will be used in the gasoline plant, it is said.

This is regarded as a wise move for it will conserve the three upper gas horizons for future needs. There is a high gas ratio with practically all the wells at Rodessa. United Gas Company has contracted to sell its output for 5 years to Warren Petroleum Company for 95 percent of the selling price of the product.

Pelican Oil & Gasoline Company is making a test run in its 85,000 gallon daily casing head plant in Section 14-23n-16w. Eastern Texas Refining Company's combined refinery and gasoline plant in the Rodessa townsite, Section 23-23n-16w, is producing approximately 9000 gallons daily and what is not needed for retailing is being sold to truck dealers at 5 cents per gallon.

Shoreline Refining Company which recently completed two 10,000-barrel tanks in Section 23-23n-16w, and is connecting to nearby townsite wells with a 4-inch gathering system, has installed a steam booster station and is preparing to move its oil to Arkansas Pipe Line Company's pipe line for transportation to the refinery at Lewis, Caddo Parish.

Cass Well Plugs Back

After drilling to 6070 feet, with the last 63 feet in impervious lime of Young age, American-Liberty Oil Company's Rambo 1, J. H. Rives Survey, Cass County, Texas, 4 miles southwest of the Rodessa oil producing limits, last week was plugged back to 6010 feet and 7-inch casing cemented at 5993 feet. It will be tested for a gas-distillate well in the Young horizon which was logged at 5982 feet; elevation is 260 feet.

Formation in this well from 5980 to 6007 feet was moderately porous with the taste and odor of gas and distillate. The test which checked with gassers in the Rodessa field proper bore out the seismograph picture which showed it was too close to the Rodessa fault to make an oil well.

Arkansas-Louisiana Gas Company has sent a seismograph unit to the area around the Rambo test. Amerada Petroleum Corporation and Sinclair Prairie Oil Company have shooting crews still working along the Rodessa fault in Cass County. Atlantic Oil Producing Company's torsion balance unit last week was 2 miles southwest of Jefferson, Marion County, having recently completed a profile from Lodi to Jefferson.

In Cass County, 17 miles northwest of Linden around the S. E. Moore and adjacent surveys, Beck and associates are taking leases. Ten miles northwest of Linden Seaboard Oil Corporation has a seismograph unit at work.

"There's the thing that would 'a' saved my neck!"

"I wouldn't a had this 'oil bath' neck if I'd had one of them things to drill by. This here neck of mine belongs to the 'B Q' age, when yuh had to be a reg'lar damn owl to keep track of all the gauges and gadgets on a drillin' rig."

"With one of them there 'Quintuplexes' to drill by, yuh only gotta cast yer eye over her wuncinawile to keep track of how everythin's percolatin.' And yuh don't get caught with yer pants down when sumthin' goes wrong."

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SEVEN AT RODESSA

Shreveport.—Seven new wells boosting the total oil wells in that field to 156, were completed last week in the Rodessa field, which on May 6, had 66 tests drilling, five rigging up and 15 derricks and active locations. None of the news wells extended production.

Ten new locations were announced last week of which 8 were made by United Gas Public Service Company.

The new completions are: Arkansas-Louisiana Gas Company's Rodessa 9, SE NE 22-23n-16w, which gauged 16 barrels per hour through ¼-inch tubing choke, with one million feet of gas, at 6012 feet; Bartex Pipe Line Company's Rodessa 2, NE SE 13-23n-16w, which flowed 217 barrels in 24 hours through 13/64-inch tubing choke with casing pressure 250 pounds and tubing pressure 550 pounds at 6001 feet; Standard Oil Company of Louisiana (Haynes Production Company), Lawton 13, Section 14-23n-16w, which

gauged 153 barrels per hour through 1¾-inch tubing choke with casing pressure 350 pounds, at 6049 feet. United Gas Public Service Company's Ardis 7, SE SW 14-23n-16w, which gauged 42 barrels per hour through ½-inch tubing choke with casing pressure 400 pounds and tubing pressure 300 pounds at 6041 feet; Rodessa 13, SW NE 22-23n-16w, completed at 6011 feet flowing 37 barrels per hour through ½-inch tubing choke; U. S. Government 1, Section 29-23n-16w, completed at 6045 feet flowing 100 barrels per hour through ½-inch tubing choke with tubing pressure 450 pounds; and N. S. Spearman Section 18-23n-15w, completed at 6030 feet flowing 24 barrels per hour through ⅜-inch tubing choke.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH—		
Ark. La. Gas Co., Rodessa 9, 22-23n-16w	4000	6012
Bartex Pipe Line Co., Rodessa 2, 13-23n-16w	3000	6001
Standard Oil Co. of La., Lawton 13, 14-23n-16w	3500	6049
United Gas Pub. Serv. Co., Ardis 7, 14-23n-16w	4000	6041
Rodessa 13, 22-23n-16w	4000	6011
U. S. Govt. 1, 29-23n-16w	8000	6045
N. S. Spearman 2, 18-23n-15w	3000	6030
DE SOTO PARISH—		
E. B. Bird et al, Johns 1, 20-14-16..	*	2652
S. S. Alexander et al, Stell 1, 5-12n-16w	*	6002
Larkin & Waar, Jackson 1, 1-11n-14w	*	5509
Union Pet. Co., Hill 1, 3-10n-13w	*	1400
MOREHOUSE PARISH (Monroe)—		
J. E. Farrell, State of La. 16, 33-21n-4e	¶7¾	2137
SABINE PARISH (Converse)—		
Lee Whitehurst et al, Paul 1, 24-9n-14w	¶7	1940

*Failures; †Junked; ¶Million cu. ft. gas.

FEDERALS ACTIVE

Tyler, Texas.—Five men charged in United States District Court here with alleged false statements in filing monthly reports on production of properties in the East Texas field last year were released May 5 after posting $10,000 bond each. Arrests were made on information prepared by the tender board of the Federal Petroleum Agency No. 1, and six others were similarly charged, according to District Attorney Harry Hill. Bonds were posted for H. C. Miles, L. A. Rankin, J. B. Sowell, Albert J. McDonald and V. H. Smith.

Charges were filed against 20 truckers alleged to have transported contraband petroleum products from the East Texas field to points in Louisiana. Prosecution will be based upon the Connally hot oil measure.

Federal authorities are making a thorough investigation of producers alleged to be filing sworn statements covering production from wells that have been dormant for months. Threat of prosecution is causing properties owners to take steps to pump dead wells that have heretofore obtained their allowable quota from other wells on the property.

LOUISIANA PERMITS

Shreveport.—Seventeen drilling permits were issued last week by the minerals division, Louisiana Conservation Commission. Ten were for North Louisiana divided between 2 parishes: Caddo, 8; 7 in Rodessa, and DeSota, 2; the 7 in South Louisiana were divided among the following parishes: Acadia, 2; Cameron, 2; Iberia, 1; St Landry, 1, and Terrebonne, 1.

ARKANSAS PERMITS

El Dorado, Ark.—Three drilling permits were authorized last week by the Arkansas Board of Conservation, as follows: Ouachita County, S. J. Carnes Drilling Corporation, Camden, Arkansas, Roberson 1, center SW NE 7-12-19; Union County, J. E. Crosbie, Incorporated, Smackover, Arkansas, M. W. Sullivant 5, 393 feet north and 341 feet west SEc SE NW 12-17-14; Kinnebrew & Simpson, Shreveport, Louisiana, Adams 1, 330 feet north and east SWc NE NE 12-17-14.

SOUTHEASTERN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MISSISSIPPI		
WINSTON COUNTY—		
Jack Vale, Moody 1, nw sw 3-13n-14e	*	2740

*Failures; †Junked; ¶Million cu. ft. gas.

MAKES OIL

Permian test near; Smackover is high gravity

WEEKLY STAFF REPORT

El Dorado, Ark.—Phillips Petroleum Company's J. D. Reynolds 1, SW NE 27-15-15, Ouachita County, Arkansas, one mile northeast of the shallow Smackover field, which showed for a wet gasser at immediate top of the Permian lime at 4908 feet and was killed and deepened into the lime to 4926 feet, last week made 156 barrels of oil in 19 hours with 13,500,000 cubic feet of gas at that depth producing through ⅜-inch tubing choke with casing pressure 1350 pounds and tubing pressure, 250 pounds.

Previously the well on a 1½-hour test flowing through open 2½-inch tubing with casing pressure 1300 pounds and tubing pressure 200 pounds, showed 16 million cubic feet of gas and seven barrels of oil and distillate per hour. Pressure on flow line was 150 pounds. Shake-out was 5.4 percent mud and the gravity ranged from 49 to 70. Bottom hole pressure was 2250 pounds and top hole pressure (closed) was 1810 pounds, which later dropped to 1350 pounds.

A preliminary analysis of the oil from this well at present depth showed the following:

Gasoline—75 percent, 400 end point, octane, 51.

Kerosene—5.5 percent, 512 end point, gravity, 43.

Gas-oil—10.5 percent, 35 pour test, gravity, 29.6.

Bottoms, loss—9 percent, fuel oil, pour test, 120.

Arkansas, confronted with the problem of proration for the first time since that procedure was adopted, has set the output of all wells in the Smackover field at 1,000 barrels daily. This action was taken after an open hearing was held this week at El Dorado by the Arkansas Board of Conservation. It was taken as a sequel to completion of an oil-gas producer northeast of the shallow Smackover field.

The board also announced that only one well for each 20 acres will be allowed. This has brought protest from some operators and an appeal has been taken on the matter to Attorney General Bailey of Arkansas.

It was understood that a verbal understanding had been reached that where an operator owned less than a 20-acre lease that it might he unitized with other acreage to secure the 20-acre unit, and if wells should be drilled in lesser plots than 20 acres an allowable of only 50 barrels per acre will be allowed.

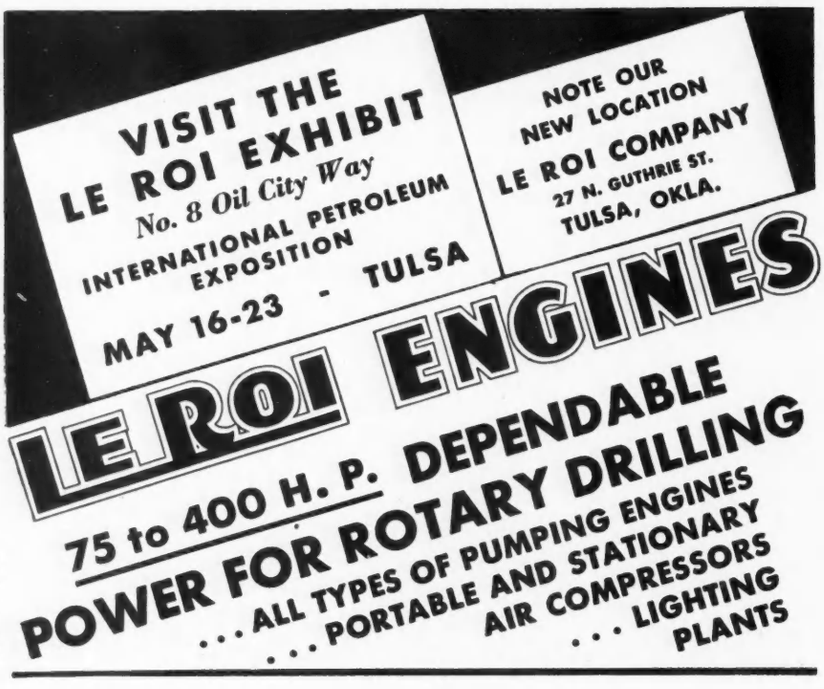
The regulations were adopted after expert testimony had been given to the Board of Conservation by P. C. Murphy of Bartlesville, Oklahoma, drilling superintendent of Phillips Petroleum Company; D. R. Knowlton of Bartlesville, general superintendent of production for that company; and D. R. McWilliams, executive vice president in charge of production for Standard Oil Company of Louisiana.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY—		
C. V. Lenz, Dale 7, 24-15-26.....	*	2867

*Failures; †Junked; ¶Million cu. ft. gas.



ALLOWABLE INCREASE

Lea County fields will produce 75,000 barrels

WEEKLY STAFF REPORT

Hobbs.—Top daily crude allowable of 75,000 barrels was authorized for New Mexico's fields effective May 1 by the State Oil Conservation Commission. This amounts to an increase of 4000 barrels daily, all of which was assigned to Lea County areas that share major company purchases with operators in the Permian Basin section of West Texas. The commission has permitted the state to exceed the production quota recommended by the United States Bureau of Mines for many months. The bureau recommended 65,900 barrels daily for May as compared to 63,200 barrels daily the previous month.

Lea County areas prorated on a flat allowable per well basis were assigned a 3-barrel increase beginning May 1. These wells are now permitted to produce 111 barrels daily, and no production restrictions are imposed upon wells that are incapable of yielding the maximum quota. Production in the Hobbs field, which has 254 flowing and pumping wells prorated on an average unit potential and acreage basis, was boosted 72 barrels to 26,339 barrels daily, according to schedule prepared by C. G. Staley, proration umpire.

Effective May 1, apportionment of production of wells in the Monument field was changed from a flat well allowable to a combination acreage and bottom-hole pressure basis, with the total allowable governed by the average for Lea County. The field has 89 producers, including one 15-barrel marginal well, and an allowable of 9761 barrels daily. All wells are on separate 40-acre units, and a minimum production quota of 89 barrels daily was assigned to each unit, except the one bearing the marginal well. Production allocated on a unit, or acreage basis totaled 7847 barrels, leaving 1914 barrels to be apportioned among the 88 non-marginal wells on a basis of bottom-hole pressure readings. The minimum bottom-hole pressure reading was placed at 1339 pounds, and the average of three highest pressure readings was 1487.33 pounds. Seventy-one wells were credited with bottom-hole pressure in excess of the minimum, or an aggregate of 7357 pounds. This averages 105.02 pounds excess per well. Seven new wells have been temporarily assigned the average excess, making a total of 8092 pounds excess. The latter figure is divided into the 1914 barrels available for apportionment on a basis of excess bottom-hole pressure, giving 0.23652 as the bottom-hole pressure factor.

Amerada Petroleum Corporation's State 1-M, C SE NW 2-20s-36e, recorded the highest bottom-hole pressure reading, and earned an allowable of 128 barrels daily. This well was credited with 1506 pounds reservoir pressure, corrected to 250 feet sub-sea, or 167 pounds excess, thereby earning 39 barrels daily on this basis and 89 barrels for minimum unit allowable.

Prolific Oil Producer

Rated as the most prolific oil producer completed from the sandy-lime horizon in eastern Lea County, Culberson, Erwin & Stovall's J. R. Stuart-

Repollo 1, C SW SE 10-25s-37e, northeast Jal wildcat, averaged 70 barrels high gravity oil hourly on 2-hour gauge through ¾-inch choke on tubing from pay at 3280-3294 feet. Originally the well flowed by heads while trying to recover a string of tools. Fishing tools also became lost, and the well gradually blew itself in as a big producer, having filled a 250-barrel tank in one hour middle April. Seven-inch casing was later cemented at 3160 feet, and the fishing tools recovered, but the drilling string is hung about 40 feet off bottom.

Record Drilling

Records for fast drilling in this area has been set by the rotary contractor on Sun Oil Company's J. R. Stuart 1, a south offset to the big producer. Hole was spudded April 21 with machine, and 8⅝-inch surface pipe cemented at 359 feet. String of 5½-inch pipe was cemented May 5 at 3283 feet, with production required by midnight May 12 to perpetuate the lease. Small diameter hole was drilled to speed up operations. Culberson, Erwin & Stovall's J. B. Humphreys-Humble 1, C SE SW 3-25s-37e, a mile north by west of their big producer, missed the prolific oil zone, and is preparing to test with 750 feet of oil in the hole near the 3700-foot level. Plains Production Company's Geo. Smith-Humble 1, C SE SE 4-25s-37e, was showing 400 feet of oil in the hole and drilling in hard lime at 3430 feet. The same company's Mosley-Repollo 1, C NW SE 34-24s-37e, continues to average 32 barrels of oil daily natural after plugging back from 3551 to 3530 feet. Gulf Oil Corporation's J. R. Stuart 1, C SW NE 10-25s-37e, is a new location for the area. Harry W. Leonard et al's Lanehart 1, C SW NE 21-25s-37e, has been completed flowing 44 barrels of oil natural with 4,880,000 feet of gas from sandy-lime at 2991-3007 feet.

The sandy-lime horizon in the South Eunice area has a new producer in process of completion on the west side of production. Sun Oil Company's A. D. Richards 1, C NE SE 6-23s-37e, has landed tubing to swab after recording oil showings in drilling to 3774 feet, with an elevation of 3370 feet. Repollo Oil Company's A. L. Christmas 1, NE NE NE 28-22s-37e, produced 50 barrels initial after shot at 3588 feet, but may require pumping equipment. Continental Oil Company and The California Company made locations for E. M. Elliott 1-A-21, a north offset.

Sun Oil Company's W. W. Weatherly 1, C NE SW 17-21s-37e, situated about 1½ miles northwest of a wildcat producer in the sandy-lime belt to the north of Eunice townsite, logged oil saturation at 3597 feet, with an elevation of 3486 feet. Salt series were logged at 1350-2486 feet. The hole will be deepened before attempting a production test.

Lea County contributed 11 new locations the past week following a record quota of 27 the previous week. Monument field accounted for 6, while 2 were assigned the Eunice field and 1 at Hobbs.

INTENSIVE CAMPAIGN
Ten wells get underway in Kevin-Sunburst

Great Falls, Mont.—An intensive drilling campaign really got under way in the Kevin-Sunburst field, Toole County, northern Montana, this week as 10 wells started and 3 completed. Opening of spring this year brought about the greatest activity this field has known for 5 years. The Cut Bank field, Glacier County, northern Montana, also had a good week with 5 oil well completions and 4 locations.

Two wells completed from the Sunburst sand in the Kevin-Sunburst field, Coolidge & Coolidge's State 1, NW NW 36-36n-2w, flowed 90 barrels oil in the first 16 hours from 1500-1531 feet. Crumley's Shaw 8, SE NW SE 35-36n-2w, after shot with nitro-glycerine made 50 barrels daily from 1530-1565 feet.

Imperial Craig Company's Martin 3, SW SE 18-35n-1w, had the oil rise 60 feet in the hole at 1594-1618 feet. It will be treated with acid.

New locations for the Kevin-Sunburst field were: Imperial Craig's Bluhm 17, CWL NE NE 17-35n-1w, rigging up; Imperial Craig's Bluhm 18, NW NE NE 17-35n-1w, location; Fred Munger's well in the NE SW 8-35n-2w, rigging up; Big West's Dahlquist 1, SE NW

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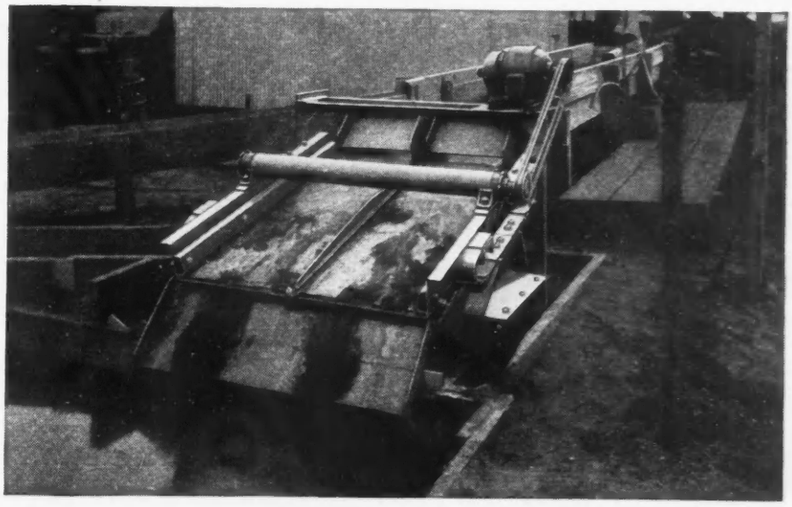

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NE, drilling at 1000 feet; White's Haugan 2, CNL NE SE 11, spudded; Superior Oil Co. 1, CSL SE NE 11-35n-3w; Watson staked location in the SE SE NE 31-35n-3w; Coolidge & Coolidge's Shaw 2, SEC 26-36n-2w, moving in material; and Crumley's Shaw 9, SE SE NE 35-36n-2w, location.

Cut Bank Field

The Texas Company again completed two wells in the Cut Bank field this week. Tribal 1-B, SW NW 32-33n-5w, swabbed 140 barrels during the first 9 hours after completion at 2778 feet.

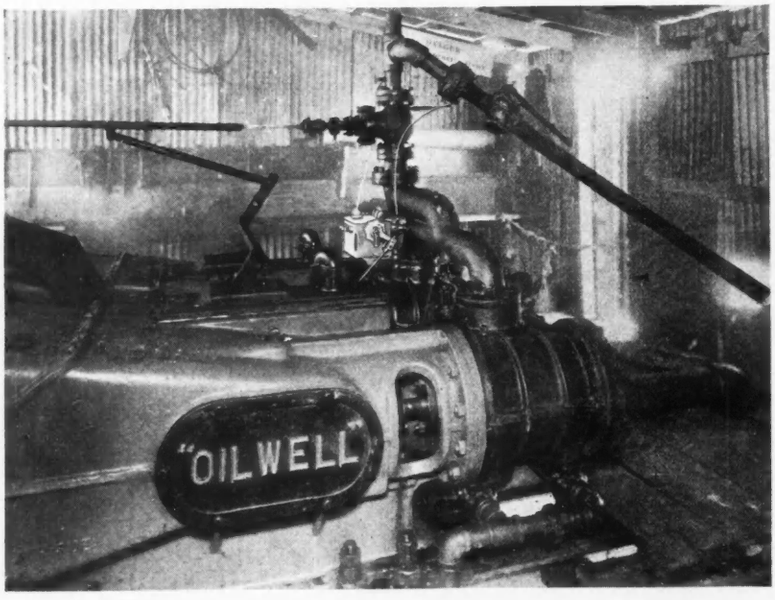
Company's Jones 2, NE SW 6-33n-5w, swabbed 123 barrels in the first 12 hours following shot. It will make around 50 barrels in settled production. Hole bottoms at 2920 feet and the oil sand was found at 2878-2912 feet.

Par Oil Company's Haines 6, NE SE SW 2-34n-6w, is a 45-barrel well at 2960 feet.

Lon Crumley's well in SW SE 31-33n-5w, is making 50 barrels with total depth at 2851 feet.

Anderson-Anderson's 3, SW NW 26-35n-6w, is rated for a 45-barrel well with hole bottomed at 2871 feet.

JOHN F. EATON, sales engineer for Jarecki Manufacturing Company, and Miss Mary Frances Chapin, were married in Tulsa on Sunday, April 26. They will make their home in Tulsa after a two weeks' trip in the Gulf Coast area.



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SUNDANCE LIMIT
Lance Creek northern test drills into water

Lusk, Wyo.—Northern limits of Sundance production in the Lance Creek field was established this week as Ohio Oil Company's Rohlff 3, SW SW NE 32-35n-65w, Niobrara County, eastern Wyoming, drilled 20 feet of water sand in the basal Sundance, entering the red beds and stopping at 3958 feet. The well swabbed a hole full of water and oil started coming through at the rate of 100 barrels an hour and pinched off water. The well then went dead and company is preparing to plug off bottom hole water. The well topped the fourth Sundance at 3871 feet and had 67 feet of oil saturated cores.

Continental Oil Company released an important outpost location at Lance Creek in the CSE NW 34-36n-65w, a mile east of Rohlff 3. The company's Rohlff 6, C SW SW 32-36n-65w, is drilling at 3010 feet. Jose 4, C SW NE 6-35n-65w, is drilling at 1826 feet.

South outpost well of Argo Oil Company in the Lance Creek field, Elliott 7, C NE SW 5-36n-65w, drilled into the red beds at 3997 feet and stopped at 4004 feet. It had the top of the lower Sundance at 3941 feet. The 7-inch production casing is set at 3932 feet and operators are preparing to swab well to complete.

South Central Wyoming

Ohio Oil Company's Alvy Dixon 1, NEc SE 34-20n-78w, in the Rock River field, Carbon County, is a near completion. The 4¾-inch casing was cemented at 3250 feet in the top of the Sundance sand. Hole bottoms at 3314 feet. Diamond Cattle Company 7, N 35-20n-78w, a recent location test from the surface to the Sundance formation, is a derrick

MOUNTAIN STATES
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY, (Cut Bank Field)—		
Texas Co., Allotted Indian Land M-615-B 1 lot 4, 32-33n-5w	140	2778
Texas Co., Marie Jones 1, cnw sw 6-35n-5w	123	2930
TOOLE COUNTY— (Kevin-Sunburst Field)—		
A. E. Crumley, Shaw 8, se nw se 35-36n-2w	60	1569
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Conoco & California Co., A. M. Lockhart 5-B-28, c nw 28-21s-36e	500	3939
Repollo Oil Co., E. C. Adkins 8, ne ne ne 9-21s-36e	1500	3903
LEA COUNTY (South Eunice Field)—		
Repollo Oil Co., A. L. Christmas 1, ne ne ne 28-22s-37e	50	3588
LEA COUNTY (Hobbs Field)—		
Samedan Oil Corp., Moon-Conoco 2-B, near c ne 28-18s-38e	8489	4225
LEA COUNTY, (Monument Field)—		
Empire Oil & Ref. Co., State 1-E, c ne sw 30-19s-37e	4500	3970
Gulf Oil Corp., B. V. Culp 6, c nw ne 19-19s-37e	2000	4017
State-Graham 2-D, c se se 19-19s-37e	770	4004
Repollo Oil Co., J. R. Phillips 2, se se sw 31-19s-37e	5000	3890
Sun Oil Co., W. B. Maveety 5, c sw ne 35-19s-36e	2000	3940
LEA COUNTY, (Wildcat)—		
Harry W. Leonard et al, B. T. Lanehart-Leonard 1, c sw ne 21-25s-37e.	¶5-44	3007

*Failures; †Junked; ¶Million cu. ft. gas.

waiting on equipment from Dixon 1.

Ohio Oil Company's Harrison-Cooper 9, southwest corner 35-20n-78w, in the Rock River field, is plugging back to the Dakota sand after drilling to 3800 feet in the red beds and missing basal Sundance sands.

In the Big Medicine Bow field, Carbon County, central Wyoming, Ohio Oil Company's Union Pacific-California 2, C NE NE 35-21n-79w, is drilling at 3460 feet. Union Pacific 3, C NE SE 23-21n-79w, is drilling at 2118 feet.

Two wells resumed operations in the northern Wyoming oil fields this week as other wells report routine. Tropic Oil Company's Government 1, C SE SW 34-27n-90w, in the Lost Soldier field Fremont County, after a shut-down of 18 months, is preparing to run 4¾-inch production string to the top of the Dakota sand and complete. Hole bottoms at 2550 feet.

On Waugh Dome, Hot Springs County, California Exploration Company's Government 2, NW SW NW 7-44n-96w, is cleaning out after shot with 80 quarts of nitro-glycerine in the Tensleep sand at 4165 feet after cementing back from 4245 feet.

Stanolind Oil & Gas Company is still rigging up pumping equipment on Ridgely 20, SE NE 10-46n-98w, in the Grass Creek field, Hot Springs County, and changing over to cable tools to drill in and complete in the Embar. The 6⅝-inch production string is set at 3713 feet and the well topped the Embar at 3908 feet. Hole bottoms at 3931 feet.

In the Grass Creek field, Ohio Oil Company's Mill Iron Cattle 3, NE SW SE 19-46n-98w, is resuming drilling after setting the 10¾-inch casing at 1198 feet. This test will be drilled to the Pennsylvanian series.

Stock Oil Company's directional well, Allen 1-X, 420 feet east of the burning Allen 1, SE NW SE 35-56n-98w, is moving in material, in the Garland field, Big Horn County. It will be drilled with a rotary to kill Allen 1 which is still burning around 60,000,000 cubic feet of gas daily from the Embar-Tensleep at 3815 feet. Total depth is at 3838 feet with drill stem frozen on bottom.

In the Byron field, Big Horn County, Ohio Oil Company's Byron-Union 4, C SW NE 25-56n-97w, is milling on tubing at 5735 feet with tubing cemented in plugged depth of 5735 feet after well was backed up from bottom hole at 5714 feet. Robert Till 1, C SE SW 24-56n-97w, is drilling at 3031 feet and Orson Vail 1, C NW NE 23-56n-97w, has rig up.

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KERN COUNTY—		
Ohio, No. A-6	¶8.7	4676
EDISON—		
General, Knapp 9	14	1458
KERN FRONT—		
Standard, Ward Fee 2	200	2014
MIDWAY SUNSET—		
General, Main Line 1	1956	2827
Gibson Oil Co., O'Brien 2	1155	3002
MOUNTAIN VIEW—		
Shell, Porter-Two 7	3110	5818
Porter-Two 9	488	5940
LONG BEACH—		
Shell, Amebco 1	*	6035
VENICE—		
Blackline Oil Co., Well 1	*	6608
KERN COUNTY—		
Superior Oil Co., B.V.A. 1	*	4880

*Failures; †Junked; ¶Million cu. ft. gas.

Routine Week

COMPLETIONS REPORTED IN MANY CALIFORNIA FIELDS

WEEKLY STAFF REPORT

Los Angeles.—Gibson Oil Company's Gibson 2, Maricopa Flats, Kern County, located 236 feet north and 231 feet west from C SE 6-11n-23w, has been completed for 1155 barrels a day of 23.0 gravity oil, cutting 0.2 percent. The well is flowing through 40/64-inch tubing bean, with 300 pounds tubing pressure, 580 pounds casing pressure and 235,000 cubic feet of gas. The gasoline content is 1.9 gallons per thousand cubic feet. Total depth of this well is 3002 feet with 8⅝-inch casing cemented at 2906 feet and 125 feet of 6⅝-inch liner. including 95 feet of perforated, is hung at 3000 feet; 2½-inch tubing is set at 2721 feet. The company's Francis 2 is a location, 530 feet south of O'Brien 1, or approximately, 760 feet south and 230 feet east from C SE 6-11n-23w, measurements taken parallel and perpendicular to west section line. Gibson Oil Company's Westside 1 is building rig, 660 feet south and 230 feet east from NWc 8-11n-23w.

General Petroleum Corporation's Main Line 1, located 236 feet south and 232 feet west from C SE 6-11n-23w, was completed for 1956 barrels a day of 22.7 gravity oil, cutting 2.0 percent. The pressure on the tubing is 230 pounds and the casing is carrying 775 pounds. The well is flowing through 40/64-inch bean. Total depth, 2827 feet with 8⅝-inch casing cemented at 2658 feet and 232 feet of 6⅝-inch liner, including 146 feet of perforations, landed at 2827 feet, cemented through perforations at 2680 feet. This well is located 472 feet south of Gibson Oil Company's O'Brien 2.

Otis Hoyt has built a rig, 1500 feet south and 150 feet east from NWc 7-11n-23w and Shell Oil Company has spudded Dorsey-Flack 1, Section 7-11n-23w.

Six miles southeast of Maricopa, E. A. Bender 1, Section 14-10n-23w, Kern County wildcat test, has been drilled with cable tools to 449 feet. At this point, oil entered the hole in large quantities. After bailing to 280 feet, a 120-foot rise was noted, of 41.0 gravity oil, in three hours. Fluid stands at 400 feet. Operators plan setting casing and conducting a production test.

Standard Oil Company's California Lands 1, Section 13-30s-28e, outside northern test of the Mountain View field, Kern County, has been drilled to 4790 feet. A body of oil sand, 60 feet in thickness, has been cored from 4614 to 4674 feet, above the Chanac horizon, in the Kern River series. Casing will be cemented and a test of this unknown interval will be made.

It is understood that the 40-acre piece in SW SE 19-30s-29e, central Mountain View field area, has been acquired by Allied Petroleum Company and that a test will be drilled soon. Petrol Well Producing Company formerly drilled and abandoned Bloemer-Jeppi 1, at 5575 feet, on this parcel.

Hogan Petroleum Company has poured foundations for Symons-C. C. M. O. 4, 990 feet south and 330 feet east from NWc 4-31s-29e. This location falls 660 feet south of Hogan Petroleum Company's Symons-C. C. M. O. 2, which was completed last December 6, for 390 barrels a day of 43.0 gravity oil, along with 20,000,000 cubic feet of gas, from 5906 feet.

J. E. O'Donnell's Bloemer-Jeppi 1, Section 17-30s-29e, located midway between the Edison and Mountain View fields, is redrilling at 4005 feet in oil sand and shale. Preparations are being made to cement 8⅝-inch casing at 3870 feet. This project originally was drilled to 5555 feet but due to faulty mechanical condition of the hole, it was impossible to complete.

It is understood that The Texas Company has acquired 12,000 acres north of the Cuyama Valley, a portion of the Cuyama Ranch, in San Luis Obispo County.

R. & R. Development Company's R. & R. 2, semi-wildcat of the Edison field, Kern County, bid for fame was short lived. Given but an outside chance, this venture drilled into granite at 651 feet, precluding much need for further drilling.

S. & G. Oil Company's Nickel 1, western extension well of the Fruitvale field, Kern County, continues flowing 250 barrels daily of 18.2 gravity oil, cutting 10.0 percent. The well is flowing through a 1-inch bean, carrying 15 pounds on the tubing and 900 pounds on the casing. Production is coming from the Etchegoin contact.

General Petroleum Corporation's Doyle-McKeon 1, Section 5-30s-24e, south Buttonwillow wildcat, has been drilled to 6149 feet with 7-inch casing cemented at 6050 feet. The formation below the casing tested wet and the hole was subsequently plugged with cement to 6050 feet and the 7-inch pipe perforated from 6040 to 5900 feet. This interval also tested wet. The hole now is plugged to 5677 feet with the 7-inch casing perforated from 5585 to 5570 feet. Salt water is being swabbed.

Drilling progress on The Texas Company's Eureka 2, Section 22-3-1, far northern wildcat test in Humboldt County, has been delayed because of a fishing job. Bottom of the hole is at 4357 feet.

Vanguard Oil Company's Baker 1, Section 33-27s-28e, total depth, 1788 feet with 8⅝-inch casing cemented at 1712 feet and 102 feet of 6⅝-inch liner, including 71 feet of perforated, landed on bottom, was placed on the pump May 2 for an initial

production of 600 barrels a day of 18.4 gravity oil, cutting 4.0 percent.

Ohio Oil Company completed A-6, in the Buena Vista Lake gas field, on April 27, for 8,700,000 cubic feet of gas per day. Total depth, 4676 feet with 8⅝-inch casing cemented at 4552 feet and 159 feet of 4¾-inch liner, including 126 feet of 120 mesh, is landed at 4676 feet. Two-inch tubing is hung at 4578 feet.

Union Oil Company's Lillis Welch 1, Eocene test north of the Kettleman Hills North Dome, Fresno County, total depth 11,147 feet, has now been perforated from 10,377 to 10,330 feet and oil and water is being swabbed.

In Madera County, Dos Palos area, Pure Oil Company has staked location for Chowchilla 3, in SWc 17-10s-14e. This will be an additional effort of this company to develop gas production on its vast holdings in the northern part of the state.

Standard Oil Company's United 1, wildcat test in Section 2-26s-20e, total depth 6335 feet, started flowing April 28, salt water at 50,000 barrels a day. It is now flowing about 35,000 barrels a day and operator is attempting to rig up equipment and shut the well in.

Republic Petroleum Company's El Segundo 2, located 475 feet south and 1500 feet east from NWc 18-3s-14w, total depth 7477 feet, with 7-inch casing cemented at 7355 feet, and top of the conglomerate oil sand cored at 7407 feet, started flowing by heads, estimated at 1000 barrels a day rate, 27.4 gravity, 10.0 percent cut. Gas production was estimated at 500,000 cubic feet. Ohio Oil Company has staked a location 660 feet due north of the above well. The Texas Company has 80 acres to the west and the Universal Oil Company and Richfield Oil Company have 80 acres to the southeast.

In the Rosecrans field, Los Angeles County, Republic Petroleum Corporation has acquired approximately 115 acres between Barnsdall Trust 1 and 2 and the old Amestoy lease of General Petroleum Corporation.

Republic Petroleum Corporation has made a location approximately 1400 feet north of Rosecrans boulevard and 200 feet west of Figueroa street. It is known that a fault runs through this area southeast and northwest and that Barnsdall Oil Company started wells on the east side of the fault that bottomed on the west side. Republic Petroleum Corporation will start its wells on the west side and endeavor to bottom them on the same side of the fault.

Eastern Oil Company's Del Rey Land and Water 1, eastern extension test of the Venice field, Los Angeles County, has been drilled to 7339 feet and is standing cemented with 9⅝-inch surface casing at 840 feet. It is proposed to set 7-inch casing at 7300 feet. It was necessary to pump more than 6000 barrels of heavy mud into the hole before sufficient control was attained to allow withdrawing of the drill pipe.

In the East Coyote field, Orange County, West American Oil Company has built rig for a test to be drilled 1475 feet south and 1848 feet east from NWc 24-3s-10w. The company has acquired 80 acres in this field which has been quitclaimed by the Associated Oil Company.

Commander Oil Company's Mesa 1, Section 29-6s-10w, Newport area, Orange County, is 2121 feet deep in oil and sand and 8⅝-inch casing is cemented at 1886 feet.

Ohio Oil Company's Recreation Gun Club 18, eastern outpost well of the Venice field, total depth 6380 feet, with 6⅝-inch casing cemented at 6298 feet and 95 feet of 4¾-inch liner, including 73 feet of 120-mesh, is hung at 6361 feet. The well was placed on the pump April 26, estimated 150 barrels a day of 17.0 gravity oil, cutting 50.0 percent mud and water.

Chanslor-Canfield Midway Oil Company's B-12, Rincon field, Ventura County, has been recompleted for 1564 barrels a day of 29.0 gravity oil, cutting 8.0 percent, 300 pounds tubing pressure, 600 pounds casing pressure, 1-inch bean and 600,000 cubic feet of gas. The well originally was drilled to 3625 feet and completed, on the pump, November 20, 1930, for 160 barrels a day of 27.4 gravity oil, cutting 16.0 percent. It has subsequently been deepened to 4485 feet, plugged to 4400 feet, with 11¾-inch casing cemented at 3600 feet and 815 feet of 6⅝-inch liner, including 519 feet of perforated, is landed at 4399 feet and cemented through perforations at 3880 feet.

Pismo Petroleum Company completed Scott 1, Section 5-32s-13e, San Luis Obispo County, for 300 barrels a day of 22.0 gravity oil, cutting 2.0 percent. The hole is bottomed at 2942 feet, with 8⅝-inch casing cemented at 2865 feet and 100 feet of 6⅝-inch liner, including 67 feet of perforated, is landed at 2942 feet. Production originated in the Miocene formation and this completion undoubtedly will be a forerunner of an active drilling campaign. Already, A. T. Jergins has built rig for Lowther 1, Section 5-32s-13e. Acreage is held in fairly large blocks, both by large and small operators.

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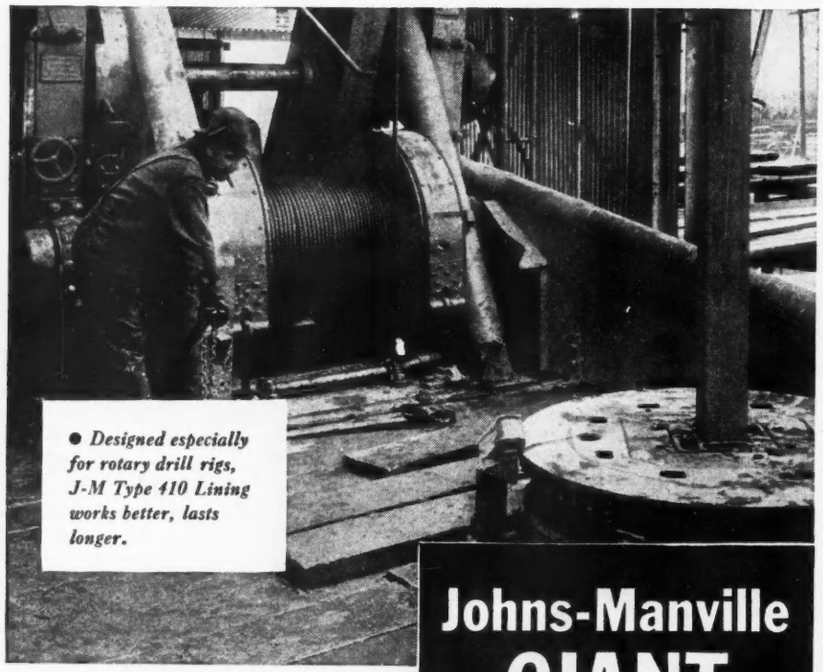

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Deepen Gas Wells

INCREASED FLOW FOLLOWS WORK IN TRI-TOWNSHIP

MICHIGAN

WEEKLY STAFF REPORT

Mt. Pleasant, Mich.—Twenty or more gas wells in the Tri-township field of Mecosta and Montcalm Counties are to be deepened in the Michigan Stray sand. First tests drilled in the field 2 years ago were completed from 6 to 10 feet in the Stray but later control established largely through the drilling of a deep test through the sand definitely established pay sand ranging from 18 to 30 feet. Virtually all completions the past six months have been 15 to 25 feet in the sand.

Columbia Oil & Gas Company, which drilled the discovery gas well in the Hinton township area of the field, has successfully deepened 3 of 6 of its wells, with increases in open flow from 10 to 20 million feet. The 3 wells were deepened by Clifford Neeley, drilling contractor, using a portable unit on a truck. H. L. Gentry, gas engineer, has contracts to deepen 15 or more wells in Belvidere and Millbrook township using a special portable unit in which wells will be deepened under pressure.

The Broomfield pool in Isabelle County, first large Michigan Stray pool opened in the state (1930), showed an average of less than 10 feet of pay sand with the sand "pinching out" at irregular intervals through the center of the field. It was largely because of the experience in this field and in two other smaller fields, Vernon and Clare, where the sand also was comparatively shallow, that operators completed most of the early tests in the Tri-township field under 15 feet in the pay.

Early this year Michigan Exploration Company made an oil test location (10 acres) in Section 3, Belvidere township, 12n-7w, Montcalm County, in the proven gas area on Richardson 1. Gas sand was topped at 1215 feet with the test showing continuous pay sand to 1242 feet before going into a shale break above the Marshall. The well initialed 35 million feet. This test was the chief influence in later drilling of all wells in the field from 15 to 25 feet in the pay sand with a result that while first completions averaged about 5 million, completions since have averaged above 10 million feet for the field.

The field now has been definitely proven to extend 7 miles on a southeast trend from Section 23, Hinton township, Mecosta County, southeast through Millbrook township and into Section 12 of Belvidere township. As now developed with possible extensions due particularly on the east and south, the field includes about 10 to 12 thousand acres. Open flow was 1½ billion cubic feet in April from 99 completed wells. Reserves have been estimated from 30 to 100 billion cubic feet.

Grand Rapids Gas & Light Company has a 10-inch welded line under construction from the Tri-township field to Grand Rapids, 46 miles southwest of the field. Grand Rapids has an estimated market requirement of 5 to 15 million feet exclusive of industrial, but under the present State Utilities permit are restricted to draw only enough gas to make a 50-50 mix with artificial gas. This will limit immediate withdrawal to 2 million feet daily or less.

Under the present arrangements Consumers Power Company gathering system, unit of Consumers Power Company, will act as common purchasers in the field, buying all gas, and selling to its own outlets and the Grand Rapids line. The Utilities Commission re-

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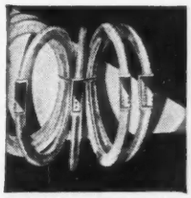

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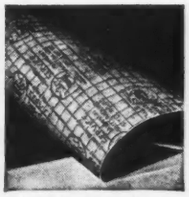

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fused to grant a permit for two gathering systems in the field.

There are 29 active drilling tests in the field with an average of 3 completions a week. Three methods are in common drilling practice. Standard drilling rigs, machines, and rotaries. In the later case the rotary is used to the top of the gas sand, averaging from 1240 to 1340 feet depending on the area, and spudders are used to drill into the gas sand.

Completions

Fifteen completions in Michigan for the week included eight oil wells with an aggregate initial production of 905 barrels, 4 gas wells and 3 failures.

Completion of T. F. Caldwell, Inc.'s Kraus 1, 18n-3e-12, Bay County, for 50 barrels daily after acid at 2045 feet in Traverse lime, is expected to lead to a definite development program in this area of Bay County. The Kraus offsets to the east Fordyce-Suszko 1, discovery well, completed late in 1935 for 20 barrels in the Traverse formation, after drilling deeper into the Dundee and plugging back when the lower formation failed to show.

T. F. Caldwell, Inc., associated unit with the Roosevelt Refining Company of Mt. Pleasant, has about 2500 acres blocked around the 2 wells and plans an extensive drilling campaign this summer. Oil is 39 gravity.

Triangle Oil Company's Iosco Land 1, 17n-2w-2, Gladwin County, quarter-mile east extension of the Beaverton pool, produced 136 barrels by flow on a 5-day test from 3892 feet in Dundee lime and will be acidized.

Five to 10 million feet of gas picked up in the Marshall formation on McClanahan Oil Company's Lincoln Life 1, 12n-5w-29, Montcalm County wildcat, may lead to opening of a new gas pool in Montcalm County. Operators are cementing off the gas for a Dundee test, however.

EASTERN FIELDS

WEEKLY STAFF REPORT

Completions

OHIO

Company, Well and Location	Init. Prod. Bbls.	Depth
ALLEN COUNTY—		
L. J. Pease, Tr., Landis 1	20	....
ATHENS COUNTY—		
Bowman O&G Co., Fleming 7	¶	755
Ohio F.G. Co., Sunday Creek Coal 6110	*	1190
BELMONT COUNTY—		
A. J. West & Co., Perkins 1	*	1522
COSHOCTON COUNTY—		
Murphy & Co., Mossholder 2	¶	3083
Preston Oil Co., Frazee 2	120	....
CUYAHOGA COUNTY—		
Ferro Enamel Corp., Fer. En. Corp. 3	¶	1030
FAIRFIELD COUNTY—		
City Nat. Gas Wks, Bauer 1	¶	....
GUERNSEY COUNTY—		
William Larick Co., Quillan 8	6	3664
Geo. Jewell & Co., Carlisle 1	¶	1062
HOLMES COUNTY—		
Dave Shafer, Jarvis 5	18	3536
Ohio F.G. Co., Pyers 1	*	3434
Ohio F.G. Co., Tidball 1	18	....
LICKING COUNTY—		
P. T. Armstrong & Co., Motherpaw 16	2	672
LORAIN COUNTY—		
William Dempsey, Palmer 1	*	....
MONROE COUNTY—		
Lewis & Co., McKivey 2	¶	2147
Chas. W. Lynch, West 1	¶	2023
MEDINA COUNTY—		
Ohio Fuel Gas Co., Sewwinski 1	*	3099
NOBLE COUNTY—		
Harry Moslet & Co., Blake 4	¶	1692
PUTNAM COUNTY—		
Brown & Co., Wannamaker 1	70	1335
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Harris 1	¶	2789
SANDUSKY COUNTY—		
W. G. Montgomery & Co., Hetrick 2	1	....
SENECA COUNTY—		
T. F. O'Brien & Co., Coleman 1	¶	1667
Harpster & Donnell, Sendelback 1	¶	525
C. Breckheisen, Breckheisen 2	2	1260
STARK COUNTY—		
E. Ohio Gas Co., Belden 2	*	....
Ohio F.G. Co., Walter 1	*	4140
White & Lyons, Daugherty 1	¶	4502
Brendel Prod. Co., Jones 1	*	4597
Wittmer Co., Rohr 1	*	....
TUSCARAWAS COUNTY—		
Capital Drilling Co., Asher 6	¶	3733
VINTON COUNTY—		
Co-Operative Oil Co., Fee 4	4	....
Dove O&G Co., McGuire 1	¶	....
WASHINGTON COUNTY—		
Local Co., Thomas 1	5	470
T. J. Hamilton, Payton 2	¶	1766
Harry Binegar, Moore 8	¶	1967
Stewart & Elliott, Heslop 12	¶	930
Nay & Weppler, Lauer 8	1	....
A. S. Stewart & Co., Heslop 1	¶	....

WEST VIRGINIA

Company, Well and Location	Init. Prod. Bbls.	Depth
CABELL COUNTY—		
A. O. Sears, Woods 1	¶	2870
Merritts Creek Gas Co., Gideon 1	¶	2910
National Gas Co., Whittaker 1	¶	2700
Waggoner Gas Co., Bias 1	¶	1278
Ky-W. Va. Gas Co., Keenan 1	¶	3670
Hilcrest Gas Co., McComas 2	¶	1498
CALHOUN COUNTY—		
K. M. Hunt & Co., Gainer 1	1	....
Kingsberry & Dollman, Lynch 2	8	2015
GILMER COUNTY—		
McCall Drill. Co., Janus 1	¶	1665
KANAWHA COUNTY—		
Owens Ill. Glass Co., Christy 2	¶	1664
Cambridge Gas Co., Wiseman 5	¶	3232
W. O. Ziebold & Co., Griffith 1	¶	....
LINCOLN COUNTY—		
J. H. Jackson & Co., Scites 1	¶	3022
W. C. Kingery & Co., Brown 1	¶	3116
RITCHIE COUNTY—		
Mosser & Collins, Martin 1	*	2090
Shannon, Dawson & Co., Wilson 1	¶	....
Southern Oil Co., Wince 1	¶	....
G. L. Cabot, Inc., Tompkins 1	¶	....
King Knob Oil Co., Hill 1	*	2175
ROANE COUNTY—		
K. M. Hunt & Co., Murray 2	10	1604
WAYNE COUNTY—		
United F.G. Co., Fry 4583	¶	1730

KENTUCKY

Company, Well and Location	Init. Prod. Bbls.	Depth
McLEAN COUNTY—		
C. C. Crowe, Martin Tract 2	*	....
Hupp & Duff, C. C. Crowe 2	*	....
J. C. Miller, Swanson Tract 2	80	....
Sunflower O&G, Howard 7	50	....
Hupp & Duff, Tanner Tract 2	180	....
J. B. Mayer, Cox 4	75	....
Ellis & Barrett, Howard 8	30	....
OHIO COUNTY—		
Sunflower O&G Co., Shockley 4	*	....

*Failures; †Junked; ¶Million cu. ft. gas.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BAY COUNTY—		
T. F. Caldwell, Kraus 1, 18n-3e, sw sw nw-12	40	2045
CLINTON COUNTY—		
Stork Oil Co., Bross 1, 8n-2w, ne sw ne-29	*	2800
GLADWIN COUNTY—		
Triangle Oil Co., Bosco Land 1, 17n-2w, se sw se-2	25	3892
ISABELLA COUNTY—		
H. O. Butler, Seiter 1, 15n-4w, c ne nw-6	*	1503
McClanahan Oil Co., State A1, 15n-3w, sw ne sw-34	50	3620
KENT COUNTY—		
Rex Oil Co., Johnson 1, 10n-1w, sw se nw-36	*	2840
MECOSTA COUNTY—		
W. J. Bernier, Bale 1, 13n-7w, c ne ne-31	¶12	1348
MONTCALM COUNTY—		
Hyatt & Norton, Dawes 1, 12n-7w, c se nw-4	¶35½	1296
Rex Oil Co., Det. Bank 1, 12n-7w, c ne ne-6	¶28	1300
Strange & Fortney, Rule 2, 10n-5w, se ne nw-2	500	3183
Burnstein Oil Co., Fisher 1, 11n-5w, sw se sw-36	50	3208
OGEMAW COUNTY—		
Sun Oil Co., State 2, 21n-2e, nw se ne-1	40	2626
Muskegon Dev., Garnett 2, 22n-2e, ne sw nw-28	¶2	1770
Webber Oil Co., Boeing 3, 22n-2e, sw sw se-36	150	2635
Richland Oil Co., Hustead 2, 22n-2e, sw nw se-36	50	2600

*Failures; †Junked; ¶Million cu. ft. gas.

Portable spudder used to deepen gas wells in the Tri-Township field, Michigan

THE OIL WEEKLY REPORT ON IMPORTANT *Wildcat Tests*

ALABAMA

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est 2, nw sw 9-3n-29e, dr 3290 ft.

ARKANSAS

CALHOUN COUNTY — Ben Barnett, Tr.'s Freeman Smith 1, se nw sw 36-15-14, sd 1600 ft.

COLUMBIA COUNTY—J. C. Buckbee, Tr.'s J. B. Wilson 1, sw ne 17-17-18, spd.

CRAWFORD COUNTY—Trumbo et al's Craddock 1, c nw ne 3-11-30, top Miss. lime 965 ft dr 1085 ft.

HEMPSTEAD COUNTY — Easton & May's Conway 1, ne sw 20-12s-27w, dr under 10-in csg cemtd at 80 ft.

LA FAYETTE COUNTY—Erwin & Leach's Bodcaw 3, nw nw 20-16-23, elev 250 ft, dr 6832 ft red shale. Joe Modisett et al's Frost Lbr. Co. 1, 29-19-24, elev 261 ft 7-in csg 5310 ft, coring lime 5651 ft.

LONOKE COUNTY—Frank F. Silver's Jos. Chambers Est. 1, sw ne nw 17-2-7, rur.

OUACHITA COUNTY — Carnes & Harrell's Robertson 1, nw se 7-12-19, dk & mir. Phillips Pet. Co.'s J. D. Reynolds 1, se nw 27-15-15, elev 178 ft 9⅝-in csg 4892 ft deepened from 4908 ft to 4926 ft flowed 156 bbls high gravity oil in 19 hours through ¾-in tub choke & made 13 mil ft gas with c.p. 1350 and tub press 250 ft, td 4926 ft. O. F. Whittaker's Howard 1, nw ne 20-12-16, spd.

UNION COUNTY—J. C. Buckbee, Tr.'s Ezzell 2, ne nw 13-17-15, spd dr 2165 ft. Mrs. Mamie McCurry et al's Slaughter 1, se se 9-17-16, top red beds 2985 ft sd 3106 ft corrected depth. Root Pet. Co.'s White 1, se sw 36-17-15, elev 257 ft pb to 2228 ft old td 3472 ft.

CALIFORNIA

FRESNO COUNTY

COALINGA—Jas. M. Conlon Co.'s No. 1, 30-19-15, td 889 ft; prep to test.

MONOCLINE RIDGE—Seaboard Oil Corp.'s Welsh 1, 10-16-13, dr gray sand, to 4221 ft.

CURRY MOUNTAIN—Standard's So. Coalinga 1, 36-21-14, dr 1201 ft, sand and shale.

CANTUA CREEK—Gulf's S.P. Land 3, 3-17-15, dr sandy shale, td 4450 ft.

KERN COUNTY

SO. MARICOPA—American Pacific Oil Co.'s No. 1, 18-10-23, rur. E. A. Bender's No. 1, 14-10-23, td 449, will set csg, so.

McKITTRICK—Balmac Dr. Co.'s Douglass 1, 22-29-21, sd 4800 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Mabry 2, 17-26-18, td 4729 ft. Richfield's Alferitz 2, td 2647, hard shale.

McVAN—Framac Oil Co.'s Brown 2, 22-27-27, td 1413 ft, to perforate.

POSO CREEK—Bargol Oil Co.'s Bargol 1, 11-27-27, 1105 shale. Miley Unger's Unger 1, 27-26-28, wocs, td 1425 ft, oil sand 1410-1425 ft.

SO. BUTTONWILLOW — General's Doule McKeon 1, 5-30-24, td 6149 ft; perf 5980-6040, swabbed wet.

NO. MOUNT POSO—H. Mann's No. 2, 27-26-28, td 1537 ft, plug 1443 ft, bailing oil, water and sand.

MOUNTAIN VIEW—Mohawk Oil Co.'s Earl Fruit 1, 10-31-29, rur.

BUENA VISTA LAKE—Ohio's Well A-6, 32-31-26, td 4676 ft, testing wocs; Well A-7, 5-32-26, grade.

STRAND—Ohio's D-1, 1-30-25, td 6590 ft, sandy shale.

GRAPE VINE—Ohio's Title Ins. 1, 36-11-19, rur. Reserve O&G Co.'s No. 1, 33-11-19, td 6030 ft, co.

MOUNT POSO—Poso Pet. Co.'s No. 1, 2-27-27, sd 1427 ft.

ROUND MOUNTAIN—Piute Holding Co.'s Piute 1, 17-28-29, lcn.

NO. MOUNT POSO—Santa Carla Oil Co.'s Glide 1, 7-26-28, dr 2008 ft.

STEVENS AREA—Shell's K. C. L. 1, 29-30-26, r to set csg, td 7880 ft.

COMANCHE POINT — Signal O&G Co.'s Tejon 1, 30-32-30, rig. Tejon Ridge Oil Co.'s No. 1, 23-32-29, dr 2358 ft.

WHEELER RIDGE—Silver Gate Co.'s Tejon 1, 7-10-19, sd 2985 ft.

LOST HILLS—Standard's United 1, 2-26-20, td 6335 ft, flowed 50,000 B/D salt water.

BUENA VISTA—Superior's B. V. A. 1, 6-32-25, sd 4880 ft.

POSO CREEK—Milton J. Unger's No. 1, 27-26-28, dr gray sand 1350 ft.

McFARLAND—Woods & Bailey's No. 1, 16-26-26, td 3450 ft, sand and shale.

HUMBOLDT COUNTY

EUREKA—Texas' Eureka 2, 22-3-1, td 4357 ft, fsh drill pipe.

KINGS COUNTY

PYRAMID HILLS—Associated's Avenal 1, 35-23-17, foundation. Royalty Service Corp.'s No. 1, 16-24-18, sd 4201 ft.

DOS PALOS—Pure Oil Co., Chowchilla 3, 17-10-14, foundation.

SAN JOAQUIN COUNTY

STOCKTON—Holly Dev. Co.'s Padden 1, 16-2-5, dr 3165 ft, sand and gravel. Standard's McDonald 1, 25-2-4, td 4614 ft, ran formation tester, blew gas, 9000 MCF rate.

SAN LUIS OBISPO COUNTY

CARRIZO PLAINS — Barnsdall Oil Co.'s Wreden 1, 24-28-17, dr sand and shale 3252 ft.

ARROYO GRANDE—Pismo Pet. Co.'s Scott 1, 5-32-13, td 2942 ft; on pump 4/28, est 250 B/D gross. Birch-Royer Oil Co.-Patchell 1, 33-31-13, td 1619 ft, corr depth. J. D. Martin's No. A-4, dr 2200 ft; C-L, dr 1900 ft.

ELKHORN—United Oil Co.'s No. 1, 2-32-21, td 150 ft, wocs. E. D. Bacon's No. 1, 22-31-21, lcn.

CHOLAME—Willett Oil Assn's Jack 2, 10-25-15, sd 3648 ft, bridged 3100-3000.

SOLANO COUNTY

RIO VISTA—Amerada Pet. Corp.'s Emigh 1, 26-4-2, dr sand and shale 1410 ft.

TEHAMA COUNTY

CORNING — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, sd 7330 ft.

MONTEREY COUNTY

WEST PLEYTO—Shell's Branch 1, 34-24-10, dr sand and shale 8346 ft.

SANTA BARBARA COUNTY

SUMMERLAND—Toney Carnero's Fithian 1, 8-4-24, dr siltstone 990 ft.

SANTA MARIA — Hall-Baker's Preisker 1, 12-9-34, 1600 ft. Union's Adam 1, 24-10-34, td 2576 ft, shut in 160 pounds on tubing and 650 pounds on casing; Enos 19-1, 19-10-33, grade.

EL CAPITAN—La Canada Oil Corp.'s Well 1, 33-5-30, rig.

LOMPOC — Lompoc Pet. Corp.'s Beauterbough 2, 18-7-24, fsh 3490 ft. York Oil Co.'s No. 3, 33-8-34, rur.

CARPENTERIA—Santa Barbara O&G Co.'s Bryce 1, 29-4-25, sd 2300 ft.

POINT CONCEPTION—Union's Sudden 1, 15-5-25, sd 2221 ft.

VENTURA COUNTY

SHIELLS CANYON — Bankline Oil Co.'s Calumet B-1, 3-3-19, dr gray sand 4343 ft. Petroleum Securities Co.'s Home Ro. 3, 3-3-19, coring hard sand 3082 ft. Texas' Shiells 18, 4-3-19, td 4812 ft, plug 4260 ft; Shiells 130, spud 4/28.

SO. MOUNTAIN—Calco Pet. Corp.'s Calco 3, 17-3-20, shale, reamer stuck 3210 ft.

OJAI—Continental Oil Co.'s Pirie 2, 12-4-23, td 1017 ft, to deepen.

OXNARD—General's McGrath 2, 26-2-23, dr sand and shale 6121 ft.

SANTA PAULA — High Mesa Oil Co.'s Butcher 1, 16-4-22, td 650 ft, co. Bennie Bros.' Well 1, 21-4-21, rur.

SIMI—Jas. S. Hull's No. 1, 2-2-18, td 1715 ft, recmtd 500 ft.

PIRU—R. P. Johnson's Rubel 1, 21-4-18, td 1640, plug 1300. Bolsa Chica Oil Corp.'s Snow 3, 4-4-18, dr hard brown shale 1853 ft; Snow 4, rur.

SESPE CANYON—Merchants Pet. Co.'s No. 1, 1-4-20, grade. Frans Nelson's 29-5-19, sd 2000 ft. Topo Topo Oil Co.'s No. 3, 33-5-19, td 1250 ft, co. Condor Oil Co. No. 1, dr shale 1150 ft.

SESPE CREEK—Speik Oil Co.'s No. 1, 33-5-19, rur. Bankline Oil Co.'s Wakefield 1, sd. Calkan Pet. Co.'s No. 1, 23-5-20, dr shale, spud 4/16.

BARDSDALE—Union's Dryden 10, 12-3-20, td 6055 ft, flg by heads 88 bbls in 5½ hrs, clean. Bestco Pet. Co.'s Frey 1, 2-3-19, dr hard gray sand 1800 ft. El Rancho Oil Co.'s Elkins 1, 9-3-19, sd 4040 ft. Laing & Jacobs' No. 1, sd 1225 ft.

SOUTHERN CALIFORNIA

PUENTE—Chas. R. Butler's Butler 1, 14-2-10, sd 4145 ft.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, td 6765 ft, co.

TORRANCE—Codri Oil Co.'s No. 1, 28-4-13, td 3568 ft, wocs. Eyer Pet. Corp.'s No. 1, 20-4-13, sd 3794 ft.

ARTESIA—Davis & Lewis No. 1, 25-3-12, rig.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt (water completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million 'eet o' gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole 'ull o' water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving on tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

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SAN ANTONIO, TEXAS

Vanco Devel. Co.'s Millard 1, 24-3-12, co 5888 ft.

GARDENA—A. C. Edington's No. 1, foundation.

WILMINGTON—General's No. 1, rur. Sovereign Oil Corp.'s Banning 1, 28-4-13, td 3663 ft, wocs.

PUENTE—McVicar-Roods Sentous 1, 6-2-9, dr shale 190 ft.

TOPANGA CANYON—Monarch Pet. Co.'s No. 1, 5-1-16, sd 650 ft.

WEST LONG BEACH—Shell's Amebco 1, 13-4-13, td 6387 ft, abn.

EL NIDO—Shell's McKenna 1, 33-3-14, td 7352 ft, pulled liner, stg plugged.

DOMINGUEZ—West American Oil Co.'s Del Amo 1, 3-4-13, dr sand and shale 8276 ft.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-3-16, drlg out cmt, td 2022 ft.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, wocs, td 2121 ft.

YORBA LINDA—Continental's Carlton Com. 1, 21-3-9, td 4796 ft, stg plugged 2452 ft.

WESTMINSTER—Hillman-Long's No. 1, 14-5-11, dr hard shell 7528 ft.

SUNSET BEACH—Geo. Terry's Gun Club 1, 17-5-11, rur.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, dr hard shale 2268 ft.

FLORIDA

JACKSON COUNTY — Mrs. Mamie Hammonds et al's Grandberry 1, sw ne 15-5n-9w, sd 240 ft.

LAKE COUNTY—Oil Dev. Co. of Fla's Gulf Expl. Co. 1, se se 17-24s-25e, elev 120 ft dr 3700 ft. Selma chalk.

KANSAS

BARTON COUNTY—Morgan & Flynn et al's Zimmer 1, se se sw 30-19s-14w, dr 3578 ft. Simpson, Noble & Atlantic's Hiss 1, cnw ne 31-20s-13w, td 3287 ft, 2200 ft oih in 10 hrs. Murphy & Morgan's Robinson 1, ne ne sw 21-16s-14w, dr 3455 ft. Merriam's Soaken 1, sw sw se 21-17s-11w, sd 3210 ft. Davison et al's Birzer 1, sw se sw 22-17s-12w, co 1905 ft. Ramsey et al's Hunt 1, nw nw nw 10-18s-11w, td 3404 ft, pb 3402 ft, 1000 gals acid, no increase, 1000 gals acid, no test. Schermerhorn Oil Co.'s Hunter 1, ne ne ne 29-18s-15w, fsg 2710 ft. Buchanan & Alexander's Langford 1, ne ne sw 14-20s-11w, td 3290 ft, 2500 ft oih. Wakefield & Johnson's Bumm 1, sw ne ne 22-19s-12w, sd 332 ft. Rose & Lant's Redetzke 1, ne nw nw 10-16s-11w, rig. Price et al's Ehrlich 1, nw nw se 10-16s-13w, dr 3420 ft. National Ref Co.'s McLean 1, sw sw se 25-17s-11w, dr 1990 ft. Rosespring Drlg et al's Rick 1, sw sw sw 1-19s-11w, cellar. Burton's Wendel 1, ne ne ne 13-19s-11w, sd 63 ft.

BUTLER COUNTY—Ellis et al's Pettit 1-A, se se nw 21-28s-6e, running 15-in csg 375 ft. Sanford et al's Weaver 1, se se ne 11-28s-5e, running 12-in csg 1618 ft. Dalton et al's Miley 1, csw ne 17-27s-5e, rig.

COWLEY COUNTY—Penwest's Clover 1, ne se se 8-31s-7e, td 3172 ft, pb 1490 ft, prod 8 mil ft gas, comp. Roth & Faurot's Guthrie 1, se ne nw 30-33s-8e, hfw 3146 ft. DeGenther Oil Co.'s Holt 1, nw nw se 15-30s-5e, ru. Cameron & Pulse's Simpson 1, cne nw 3-30s-4e, ru. Wakefield et al's Daniels 1, se sw se 3-30s-3e, dr 225 ft. Braden Prod Co.'s Sparks 1, se se nw 35-33s-4e, rum. McKnabb's Community 1, cne nw 14-34s-3e, rig.

EDWARDS COUNTY — Stanolind-Elwell's Donovan 1, cse se 14-25s-18w, set 15-in csg 212 ft.

ELLIS COUNTY—Jones Bros & Carpenter et al's Solomon 1, se se sw 28-11s-19w, dr 2475 ft. Twin Drlg Co.'s Reidel 1, sw sw ne 27-13s-16w, sd 3355 ft. Brunson & Ewers-Simpson's Gross 1, ne ne sw 29-14s-17w, running 8-in csg 2595 ft. Bridgeport and J. J. Hall's Madden Estate 1, ne nw nw 26-15s-18w, running 10-in csg 1110 ft. Lario O&G Co.'s Walter 1, se ne sw 2-12s-18w, dr 2923 ft. Tom Palmer's Schoenthaler 1, ne ne nw 31-12s-19w, dr 795 ft. Harris & Haun et al's Schmeidler 1, se se sw 3-13s-17w, dr 825 ft. Yarnell & Carlson's Phillip 1, nw nw se 2-14s-18w, dr 1115 ft. Wolf Creek et al's Polifka 1, sw sw ne 24-13s-18w, lcn. Rosespring et al's Union Pacific 1, ne ne ne 9-13s-20w, br. Empire's Herl 1, se se se 22-15s-19w, ru.

ELLSWORTH COUNTY — Skiles et al's Kafka 1, ne ne sw 15-17s-8w, abd 3327 ft. Empire's Kroesch 1, nw nw se 33-17s-9w, set 8-in csg 3014 ft, co.

FINNEY COUNTY—Lone Star State Drlg. Co.'s Hamlin 1, sw sw ne 31-24s-34w, sd 1775 ft.

GRAHAM COUNTY — Vickers & Phillips' Hutton 1, ne ne se 29-8s-22w, dr 1819 ft.

GREENWOOD COUNTY—Dunn's Dawson 1, cnw ne 27-26s-13e, abd, 1527 ft, McGinnis' Dater 1, nw nw sw 11-24s-8e, dr 1200 ft. McGinnis' Lampe 1, nw ne sw 26-24s-8e, ru.

HARVEY COUNTY — Harburney Oil Co.'s Scrag 1, nw nw se 24-22s-3w, sd 2796 ft. Shawver's Judd 1, sw se ne 3-24s-2e, mim.

HASKELL COUNTY—Helmerich & Payne et al's Jones 1, cse 34-26s-34w, rig.

KINGMAN COUNTY—Lauck et al's Prather 1, cse 18-27s-8w, rig. Oklahoma Oil Corp et al's Reeves 1, nw nw nw 29-27s-5w, lcn.

McPHERSON COUNTY—Empire's Cunningham 1, se se se 26-18s-1w, dr 1735 ft. Johnson et al's Johnson 1, sw sw nw 33-17s-1w, br.

NESS COUNTY—Continental's Thompson 1, ce½ e½ sw 13-18s-26w, dr 3890 ft.

RENO COUNTY—McPherson Oil Co et al's Miller 1, se se ne 23-24s-5w, abd, 3975 ft. Helmerich & Payne's Schwaiger 1, sw se ne 27-26s-5w, dr 3900 ft. Dickey Oil Co.'s Sherpher 1-A, ne ne nw 22-26s-9w, td 4161 ft, pb 4156 ft. Cheney et al's Moore 1, ne ne ne 14-26s-8w, dr 2335 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, sd 2815 ft.

RICE COUNTY—Gratton et al's Williams 1, sw sw nw 17-18s-7w, ur 6-in csg 3212 ft. Gilmac Oil Co.'s Sargent 1, se se se 31-18s-6w, sd 865 ft. Dickey and Continental's Newkirk 1, ne ne sw 11-18s-7w, dr 3145 ft. Witt's Hall 1, se se nw 3-20s-9w, dr 3105 ft. Duwe & Schneider's Wright 1, ne ne ne 36-21s-7w, ur 8-in csg 3005 ft. Simpson & Noble et al's Pulliam 1, cs½ n½ ne 35-19s-8w, dr 3115 ft. Skiles et al's Stout 1, se se se 6-21s-9w, spd. Beardmore et al's Fuller 1, sw sw se 23-18s-7w, dr 995 ft. Sage et al's Patton 1, sw sw sw 5-21s-7w, rig. Permian Oil Co.'s Monroe 1, cne ne 9-20s-7w, sd 2605 ft. Simpson-Noble & Stanolind's Bowman 1, sw sw nw 22-19s-10w, lcn. Shell's Maughlin 1, ne nw se 11-20s-8w, dr 40 ft.

ROOKS COUNTY—Murfin et al's Wasthusin 1, ne ne se 12-6s-18w, ur 10-in csg 2355 ft. Skaer Oil Corp. and Reese's Dryden 1, ne ne ne 28-10s-17w, dr 785 ft. Lester & Dean's Burtt 1, se se ne 29-10s-20w, ur 10-in csg 780 ft. Hartman & Blair's Hall 1, nw nw nw 25-10s-17w, ur. L.C.D. Drlg Co. et al's Westhusin 1, cne se 11-9s-17w, br. Trees Oil Co.'s Minx 1, sw sw sw 31-10s-18w, lcn.

RUSH COUNTY—Pryor & Lockhart's Stegman 1, sw nw ne 11-16s-17w, dr 2995 ft. Rosespring et al's Jacobs 1, sw se nw 8-16s-17w, cementing 7-in csg 3310 ft. Boyle & Grossman's Wilson 1, ne ne ne 33-17s-19w, dr 705 ft. National Ref Co.'s Werth 1, nw ne ne 7-16s-18w, ur 10-in csg 2560 ft.

RUSSELL COUNTY—Bridgeport Mach and Lauck's Wyckoff 1, se nw ne 27-11s-13w, fsg 3460 ft. Berry et al's Cook 1, ne ne se 19-11s-13w, co 2610 ft. Eisenhour & Shaffer's Humes 1, sw sw sw 6-14s-12w, sd 2735 ft. Darby and Continental's Letsch 1, se ne nw 34-14s-13w, td 3134 ft. Central Pet Co.'s Furthmeyer 1, ne ne ne 28-14s-15w, co 2550 ft. Stearns & Streeter et al's John Hancock Insurance 1, se sw sw 31-12s-14w, dr 2320 ft. Wakefield et al's Krug 1, ne nw sw 7-15s-14w, ru. Coralena Oil Co.'s G. M. Sellens 1, sw se sw 20-15s-13w, dr 855 ft. Hartman & Blair's Johnston 1, nw nw nw 11-13s-14w, rig. Lario O&G Co. et al's Steinert 1, nw nw sw 21-15s-15w, lcn.

SEDGWICK COUNTY—Dickey Oil Co.'s Ayers 1, sw sw nw 12-27s-2e, dr 2385 ft. Joe Aylward et al's Harrison 1, se se sw 23-25s-2e, br. Lauck's Parke 1, se se ne 17-25s-2e, ru.

STAFFORD COUNTY — Stanolind-Atlantic's Shotton 1, sw sw sw 27-22s-13w, coring 3484 ft.

SUMNER COUNTY—Helmerich & Payne et al's Elwell 1, nw nw ne 18-34s-1e, sd 4000 ft. Wilcox O&G Co. et al's Hess 1, se se nw 13-23s-2w, dr 3896 ft. Matthews & Derrington's Berry 1, nw nw se 14-35s-1e, ur 8-in csg 2191 ft. Wilson et al's Clark 1, csl nw 15-35s-1w, dr 4045 ft. Craft & Wilson's Nevitt 1, ne nw ne 36-32s-3e, ur 8-in csg 2213 ft. Pryon & Lockhart et al's Knowles 1, sw sw sw 30-30s-1e, dr 2885 ft. Texas Co.'s Reed 1, ne se se 11-31s-1w, rig.

TREGO COUNTY—Continental's Holcomb 1, ne se nw 26-11s-23w, td 3654 ft, pumped 616 bbls oil, comp. Central Commercial's Wagg 1, nw nw se 17-13s-21w, td 3950 ft, 780 ft oih in 3 days. Hall et al's Deines 1, se se se 12-13s-24w, mim.

WOODSON COUNTY—Sheedy's Baker 1, se se nw 2-26s-14e, td 1560 ft, pb 1416 ft. Mendenhall et al's Hunter 1, ne ne ne 36-25s-14e, report last week in error, dr 650 ft. Foster et al's Timm 1, se nw ne 36-25s-13e, dr 425 ft. Roy Johnson's Hare 1, cn½ ne 32-25s-14e, dr 500 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Rondeau et al's Locke 1, ne nw ne 9-15n-10w, elev 180 ft rur. Walters et al's Davis 1, 3-16n-9w, mim.

BOSSIER PARISH — Bowman-Tidwell's Nattin 1, 15-22n-14w, woc 66 ft. United Gas Pub. Serv Co.'s Murff A-1, 17-17n-11w, elev 201 ft top anhydrite 3585 ft 7-in csg 4970 ft woc td 5409 ft.

CADDO PARISH — Pyramid O&G Co.'s Wheeler A-1, 16-18n-16w, elev 250 ft top anhydrite 3783 ft 9⅝-in csg 3950 ft, base massive anhydrite 4704 ft, cored porous Coquina lime sg 4826-49 ft, cored lime showing some porosity 4871-79 ft, coring 4897 ft lime. Foring-Persian Oil Co.'s Cupples 1, 24-16-13, mim. Henderson et al's Fee 1, 5-19n-15w, dk.

CLAIBORNE PARISH—Sugar Creek Synd et al's Darrett 2, 31-20n-5w, dr 6684 ft. Kilpatrick 1, sw ne 7-19n-5w, tested est 1 mil ft 5549-51 ft, coring 5692 ft. E. T. Oakes et al's Patton Est. 2, 1-20n-5w, spd dr 1186 ft.

JACKSON PARISH—Zeigen et al's La. Cent. Lbr. Co. 5, ne nw 13-14n-2w, owdd td 1770 ft.

LINCOLN PARISH—Lide & Greer's S. Gardner 1, 10-17n-4w, cored porous lim sg 5701-42 ft, ran electrical tester arr deepen to Travis Peak.

MOREHOUSE PARISH—Henry E. Rondeau et al's Clark 1, se ne 10-20n-7e, elev 90 ft rur.

RAPIDES PARISH—Texas-Eagle Oil Corp. et al's State 1, 5-1s-2e, dr 4938 ft.

RED RIVER PARISH—I. J. Allen's Franklin Realty Co. 1, ne ne 20-11n-9w, 10-in csg 110 ft dr 1213 ft. H. D. Conley et al's Long-Bell 1, 19-13n-9w, rur.

SABINE PARISH—Keen et al's Long-Bell 1, 5-8n-13w, rur. Laurel Pet. Co.'s Whitney Corp. 1, 8-9n-13w, spd dr 1285 ft. A. H. Tarver's Baker 2, 36-8n-12w, elev 347.5 ft top Zwolle marl 2205 ft going over hung drill pipe with 8-in csg td 5225 ft.

TENSAS PARISH — H. M. Jones' Chicago Mill & Lbr. Co. 1, 30-12n-10e, 10-in csg 228 ft, tested est 5 mi ft gas at 773 ft in basal Jackson, arr set csg.

UNION PARISH — Lent, Sears & Bocher's Frost Lbr. Co. 1, nec 27-21n-1e, dr 3465 ft shale & lime.

WEBSTER PARISH—J. P. Evans' Crichton 1, 35-18n-9w, elev 214 ft top first anhydrite 4700 ft, base massive anhydrite 5189-98 ft, cored to 5460 ft lime with sg, may set csg td 5460 ft (Hill zone). Ohio Oil Co.'s R. L. Holloway 6,

SAE 3140
and SAE 4140

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HOUSTON, TEXAS

ne sw 23-21n-10w, elev 210 ft dr red shale 7286 ft. Coyle 1, s½ se 23-21n-10w, rur. Red Hawk Oil Co.'s Baker 1, se nw 9-23n-9w, rur. J. L. Edwards' Hooper 1, 8-17n-9w, elev 173 ft fsh slip 2550 ft.

SOUTH LOUISIANA

ACADIA PARISH—Magnolia's Homeseekers 1, Esterwood prospect, sec 54-10s-1w, sand 6748 ft.

ALLEN PARISH—Humble's J. A. Bell 1, Reeves prospect, sec 28-6s-7w, dr shale 6329 ft.

AVOYELLES PARISH — Frost Oil Co.'s Hinds Lbr. Co. 1, n of Marksville, sec 3-3n-4e, dk.

CAMERON PARISH—Magnolia's A. Hebert 1, Big Lake, sec 13-12s-9w, dr shale 5455 ft.

EAST FELICIANA PARISH—East Feliciana Oil Corp.'s Rider 1, sec 58-1s-1w, lcn.

IBERIA PARISH—Texas Co.'s State Fausse Point 2, Fausse Point, sec 35-11s-8e, mim. Jefferson Lake Oil Co.'s Lake Pigneur 274, Jefferson Island dome, 12s-5e, sd 8616 ft.

JEFFERSON DAVIS PARISH—Shell's Lacassine 1, Hayes prospect, sec 20-11s-5w, dr shale 9321 ft.

LIVINGSTON PARISH—Bunte Oil & Gas Co.'s Davis 1, Denham Springs area, sec 7-7s-3e, dk.

ST. JAMES PARISH—Shell's Colonial Sugar 1, Convent prospect, sec 5-12s-5e, dr sand showing oil 6829 ft.

ST. LANDRY PARISH—Limited Oil Co.'s Miller Est 1, Cankton prospect, sec 47-8s-4e, dr sand no shows 7411 ft.

ST. MARTIN PARISH—Texas Co.'s Lake Mongouloi 2, Lake Mongouloi prospect, sec 14-10s-9e, digging pits; St. Martin Land Co. 8, Henderson prospect, sec 9-8s-7e, shooting drill stem 3461 ft, td 8213 ft.

VERMILION PARISH — Continental's O. C. Hebert 1, Abbeville prospect, sec 20-12s-3e, dr shale 5684 ft.

WEST FELICIANA PARISH — Southern Minerals Corp.'s M. B. Wood 1, Weyanoke prospect, sec 54-1s-4w, abd 1185 ft, skidded dk 20 ft ne, ru.

MISSISSIPPI

CLAIBORNE COUNTY—Claiborne O&G Co.'s Crawford 1, 6-13n-4e, sd 600 ft gumbo.

JONES COUNTY—Snow-Black Pet. Co.'s Fox 2, 31-7n-1w, dr 700 ft.

LAMAR COUNTY — Snow-Black Pet. Co.'s Miller et al 1, ne ne sw 3-4n-15w, woc 1446 ft.

WASHINGTON COUNTY — Mid-Continent Dev. Co.'s Lee 1, 1-14n-8w, dr hd sandy lime 3349 ft.

WILKINSON COUNTY — Kirby Pet. Co.'s Lanehart 1, 22-1n-2w, dr gummy shale 3152 ft.

MICHIGAN

ALCONA COUNTY — Thalman and Morris' Kohlman 1, 26n-7e-10, fsg 3000 ft. Joseph Langlah's Kurrach 1, 27n-8e-10, sp.

ARENAC COUNTY—Arenac Oil Co.'s Griffin 1, 19n-5e-1, sd 100 ft. Redman Oil Co.'s Kahyda 1, 20n-3e-9, sd 2445 ft. Ernest Snyder's Clukey 1, 20n-6e-8e, dr 300 ft.

CLINTON COUNTY—Petroleum Exploration's Cable 1, 5n-2w-12, dr 600 ft.

CHIPPEWA COUNTY—F. D. Barton's Kretan 1, 41n-7e-17, dr 400 ft.

CRAWFORD COUNTY—T. F. Caldwell, Inc's Huston 1, 25n-1w-7, rig.

GLADWIN COUNTY—T. F. Caldwell, Inc's Parker 1, 18n-2w-21, dr 1260 ft. Mammoth Petroleum Co.'s Mellinger 1, 18n-2w-35, dr 3650 ft. Chas. Bell's Ross 1, 18n-2w-34, dr 3100 ft. Goll Graves and Mechling's Oard 1, 18n-1w, sw se se-25, lcn; State 1, 19n-2e, nw ne sw, sec 30, lcn.

GRATIOT COUNTY—C. W. Collin's Tomlin 1, 11n-4w, sw nw sw-27, moving in standard rig for deep test, bottom hole 1250 ft. McPherson and Company's Sharrar No. 2, 11n-4w-ne sw sw-11, so&w 2835-55 ft, testing. Harley William's Smith 1, 9n-2w-29, sd 2100 ft. Gulf Refining Co.'s Redman 1, 12n-1w, ne se sw-1, mit.

GRAN TRAVERSE COUNTY—M. J. Ingold's Miller 1, 26n-11w-23, dr 2000 ft.

HURON COUNTY—Wallace Markel's Opaka 1, 15n-11e-4, testing 2970 ft.

IONIA COUNTY—Frank Lyon's Geigher 1, 8n-8w-29, sd 1150 ft. Terry Dale's Tew 1, 6n-7w-12, dr 1600 ft.

ISABELLA COUNTY—Pure Oil Co.'s Comstock 1, 13n-6w-15, dr 3100 ft. George Hanner's Dargitz 1, 15n-6w-20, Traverse 3032 ft, so 3050 ft, dr 3070 ft.

MECOSTA COUNTY — G. M. Obenauer's Bernwald 1, 13n-8w-26, fsg 3200 ft.

MIDLAND COUNTY — J. V. Wicklund's Roher 1, 16n-1w-7, dr 3700 ft. King Drilling Co.'s Gould 1, 15n-2w-19, so 3665-73 ft, testing.

MONTCALM COUNTY — John F. Martin's Christensen 1, 10n-6w-20, dr 900 ft. Rowmor Oil Co.'s Tow 1, 10n-6w-36, dr 1800 ft. Morris Oil Co.'s Young 1, 10n-6w-36, lcn. Terry Dale's Higgins 1, 9n-8w-13, rig. Jetter Oil Co.'s McCracken 1, 9n-5w-6, dr 2000 ft. Star Petroleum Co.'s Ward 1, 9n-5w-20, sd 5-in csg collapsed. Michigan G&O Co.'s Youngs 1, 9n-6w-1, 1600 ft. Jetter and Oil Finder's De Hart 1, 9n-6w-1, rig. W. E. Voss, Tr.'s Bristol 1, 10n-8w-23, lcn. McClanahan Oil Co.'s Lincoln Life 1, 12n-5w-29, 5 mil ft gas Mar, csg 1350 ft, to deepen. Durham & Jones' Towle 1, 11n-8w, se se nw-15, lcn.

SAGINAW COUNTY—St. Louis Pipe's Yadovack 1, 10n-2e-13, sd 2853 ft. J. H. Hibbard's Woodward 1, 10n-5e-22, rig. T. F. Caldwell, Inc.'s McDonagh 1, 10n-5e-19, rig. Mid State's Burlson 1, 10n-5e-21, dr 2650 ft. B. J. Skinner's Sheldon 1, 10n-3e-11, dr 1300 ft.

MONTANA

CARBON COUNTY—Bailey Round Butte Oil Co.'s No. 1, ne se 3-6s-22e, dr 1483 ft.

FERGUS COUNTY—Minnesota Co.'s Fenholt 1, se nw sw 24-21n-17e, dr 2195 ft. Judith Operating Co.'s Government 2, w nw ne 35-22n-17e, dr 679 ft.

GLACIER COUNTY—L. P. Jackson and Stanley Grav's Dunbar 1, nw se nw 22-34n-7w, 742 ft.

PONDERA COUNTY—Texas Co.'s Unit 1, cnw se 32-31n-5w, dr 400 ft. Norden Corporation's Hollan 1, nw nw nw 12-28n-6w, dr 1500 ft. R. C. Tarrant's Wallenstein 1, nw nw sw 9-29n-5w, mim.

TOOLE COUNTY — Boyd's Kyle 3-37n-1e, mim.

NEW MEXICO

CHAVES COUNTY—John Tannehill's Campbell 3, cne se 1-11s-25e, dr 1325 ft.

EDDY COUNTY—Ohio's State-McCullough 1, sw sw 16-17s-30e, dr 3087 ft. Etz Bros.' State 2, nw sw 16-17s-30e, dr 2490 ft. D. & B. Oil Co.'s Jenkins 1, sw nw 20-17s-30e, testing 3258 ft; Berry 1, ne nw 21-17s-30e, dr 2583 ft. Premier Oil Co.'s Dexter 2-E, sw ne 20-17s-30e, running 3000 ft. Red Lake Oil Co.'s State 6, ne sw 22-17s-28e, dr 1777 ft. Tignor, Etz & Keyes' Keyes 1-B, se sw 3-17s-28e, running csg 1315 ft. Dooley & Dixon's Commerce 1, nw nw 18-20s-27e, dr 662 ft. Tex Patillo's Thompson 2, ne ne 1-20s-28e, sd 1106 ft. Getty Oil Co.'s Dooley 7, sw nw 24-20s-29e.

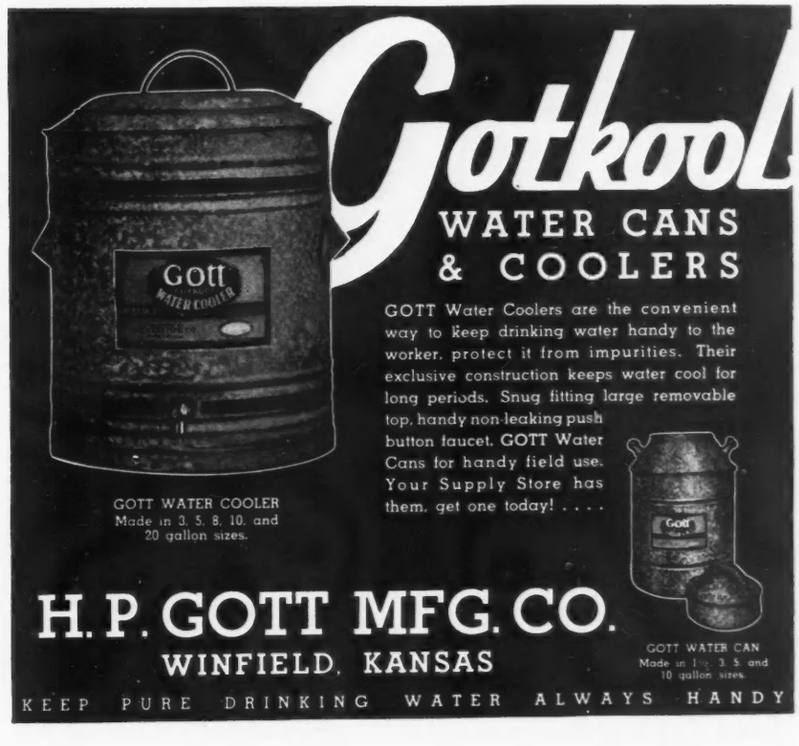
McKINLEY COUNTY—S. Dysart's Bouton 2, nw ne 14-14n-10w, straight-reaming 700 ft.

SAN JUAN COUNTY—Kutz Canyon's Day 1, sw sw 20-28n-10w, pulled 4-in csg and co at 4400 ft.

SAN MIGUEL COUNTY — Cabra Springs O&G Co.'s Fee 1, ne ne 22-12n-22e, dr 4045 ft. Starr-Kennedy's Adams 3, nwc 25-17n-18e, dr 5100 ft.

OTERO COUNTY—Ernest et al's State 1, se 20-25s-7e, co 1251 ft.

LEA COUNTY — Amerada's Chas. H. Weir 1-B, c sw ne 26-19s-36e, elev 3675 ft, used 1000 gals acid at 4000 ft, tested 11 bbls oil 18 hrs and 3,400,000 ft gas, rust to dd. Barney Cockburn & Rowan-Nichols Oil Co.'s H. G. Mattern 1, c sw se 7-22s-37e, elev 3426 ft, sd 630 ft. C. & G. Oil Co.-The Texas Co.'s Ellen Weir 1, c ne ne 14-20s-37e, elev 3564 ft, top anhydrite 1348 ft, dr 2000 ft. Conoco & California Co.'s E. M. Elliott 1, c sw sw 22-22s-37e, elev 3347 ft, dr 3050 ft; Elliott 1-A-15, se se se 15-22s-37e, lcn; Elliott 1-A-21, c se se 21-22s-37e, mim; Ira C. Farney 1, c sw se 5-23s-36e, lcn. Culberson, Erwin & Stovall's J. B. Humphreys-Humble 1, c se sw 3-25s-37e, elev 3135 ft, top anhydrite 1030 ft, top salt 1124 ft, showing for small oil well, dr 3600 ft; J. R. Stuart-Repollo 1, c sw se 10-25s-37e, elev 3105 ft, top anhydrite 1035 ft, salt series 1250-2405 ft, top lime 2430 ft, sandy-lime pay 3280-94 ft, cem 7-in csg 3160 ft, set tubing and est 4000 bbls oil daily. Gulf Oil Corp.'s S. J. Carr 1, c nw sw 3-24s-37e, sp; E. A. King 1, c sw nw 28-21s-37e, elev 3469 ft, dr 215 ft; Frona Leck 1, c nw ne 14-21s-36e, elev 3578 ft; dr 1500 ft; L. M. Buffington 1, c nw sw 13-25s-37e, lcn; W. T. McCormack 1, c ne ne 32-21s-37e, elev 3464 ft, dr 255 ft; A. B. Reeves 1, c nw sw 29-20s-37e, elev 3529 ft, base salt 2400 ft, dr 3719 ft; J. A. Stuart 1, c sw ne 10-25s-37e, mim; Humble's W. B. Farrell 1, c sw se 22-22s-37e, elev 3341 ft, dr 455 ft; G. B. Hadfield 1, c nw se 21-25s-37e, rig; J. T. Lanehart 1, c ne sw 21-25s-37e, rig. Landreth Prod. Corp.'s E. H. Grizzell 1, c se sw 5-22s-37e, elev 3437 ft, dr 1500 ft; Harry W. Leonard et al's B. T. Lanehart-Humble 1, c sw ne 21-25s-37e, elev 3079 ft, top anhydrite 965 ft, completed, flows 44 bbls oil and 5,000,000 ft gas natural, td 3007 ft. Liberty Oil & Drl Co.'s J. F. Hair-Repollo 1, sw sw se 24-24s-37e, elev 3157 ft, dr 3660 ft. Magnolia's Will Cary 1, c ne se 21-22s-37e, elev 3361 ft, dr 783 ft; E. A. Carson 1, c nw sw 28-21s-37e, rig. Maljamar O&G Corp.'s M. E. Baish 6, c nw se 21-17s-32e, Maljamar area, elev 4028 ft, lime pay 4124-4129 ft, est 100 bbls oil daily, sd for acid. Ohio Oil Co.'s W. H. Turner 1, c ne se 29-21s-37e, elev 3477 ft, dr 1350 ft. N. G. Penrose & Rowan-Nichols Oil Co.'s Will Cary-Humble 2, c ne sw 22-22s-37e, elev 3345 ft, dr 2950 ft; Cary-Humble 3, c se nw 22-22s-37e, elev 3364 ft, sd 1150 ft; Cary-Humble 4, c sw nw 22-22s-37e, rig. Plains Production Co.'s R. L. Mosley-Repollo 1, c nw se 34-24s-37e, elev 3168 ft, top anhydrite 1000 ft, sul w at 3550-51 ft, ph to 3530 ft, flows 32 bbls oil daily; Geo. Smith-Humble 1, c se se 4-25s-37e, elev 3174 ft, so&g 3175-80 ft, dr 3430 hard lime with 400 ft oil in hole. Repollo Oil Co.'s E. H. Bolding 1, nw nw nw 10-20s-37e, elev 3551 ft, dr 3900 ft; M. J. Boyd 1, swc n½ 23-22s-37e, elev 3337 ft, top pay 3568 ft, dr 3600 ft, yields one bailer oil every 3 hrs; A. L. Christmas 1, ne ne ne 28-22s-37e, elev 3344 ft, shot 60 qts 3530-74 ft, td 3588 ft, completed flowed 50 bbls oil daily; R. M. Jones 1, nw se nw 35-22s-36e, elev 3526 ft, dr 3111 ft; J. T. Lanehart 1, se nw nw 28-25s-37e, reaming 255 ft; W. C. Roach 1, nw nw nw 21-20s-37e, elev 3530 ft, cem 7-in cas 3712 ft, td 3830 ft; Frances Stuart 1, se nw se 10-25s-37e, rig; J. H. Williams 2, sw sw se 33-19s-37e, elev 3568 ft, cem cas 3915 ft. Samedan Oil Corp.'s Marshall 1, c sw nw 12-21s-36e, mim; C. U. Parks 1, sw sw sw 14-22s-37e, elev 3339 ft cem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7-in cas 3235 ft, td 3273 ft. Sun Oil Co.'s B. T. Lanehart 1, c se se 20-25s-37e, rig; A. D. Richards 1, c ne se 6-23s-37e, elev 3376 ft, top anhydrite 1215 ft, base salt 2610 ft, coring 3770 ft; J. R. Stuart 1, c nw ne 15-25s-37e, base salt 2442 ft, cem 5½-in cas 3283 ft; W. W. Weatherly 1, c ne sw 17-21s-37e, elev 3485 ft, top anhydrite 1335 ft, salt series 1350-2486 ft, so&g 3404 ft, dr 3525 ft. The Texas Co.'s W. T. Lanehart 1, c ne¼ 29-25s-37e, elev 3031 ft, top anhydrite 965 ft, base salt 2335 ft, killed big gas, td 2770 ft, drl out cement. Tide Water's Anna Walden 1, c se ne 21-22s-37e, elev 3352 ft, cem 15½-in cas 102 ft.

OKLAHOMA

ATOKA COUNTY — Riverland O&G Co.'s Jones 1, sw sw ne 4-3s-9e, dr 1013 ft.

BECKHAM COUNTY—Wood Pet & Royalty Corp.'s Blair 1, nw nw se 32-9n-26w, sd 2989 ft. Carter's Davidson 1, cnw sw 2-9n-25w, dr 3610 ft.

BRYAN COUNTY—Trio Oil Co.'s Gilbert 3, csw 25-8s-7e, sd 1200 ft.

CADDO COUNTY—Denver P&R Co.'s Sah-Cam 1, cse se 33-10n-10w, dr 8000 ft in new hole.

CARTER COUNTY — Carter et al's Leon Voorhees 1, cse sw 34-5s-2w, coring 4400 ft. Hammond's Lile 1, sw se se 8-5s-1e, dr 115 ft.

COAL COUNTY—Shell's Hill 3, se se nw 30-3n-10e, coring 6034-6046 ft.

COMANCHE COUNTY—Meiling's Miller 1, ne ne sw 23-4n-12w, sd 995 ft.

COTTON COUNTY—English Drlg Co.'s Wilson 1, nw nw se 7-4s-11w, dr 175 ft.

GARFIELD COUNTY—Sherry et al's Hoken 1, nw nw sw 32-20n-4w, re-set Whipstock. Stanolind-Amerada's Brunken 1, sw sw ne 32-23n-4w, td 5963 ft, swabbing.

GARVIN COUNTY—Carter et al's Wood 1, nw sw se 5-4n-3e, dr 1995 ft. McElreath & Suggett's Lasater 1, se se sw 2-2n-1w, lcn.

HARMON COUNTY — Lioalko Trust Ltd.'s Crasnoe 1, se se sw 14-3n-25w, dr 2263 ft.

HUGHES COUNTY—Phillips' Eberle 1, ne ne sw 12-5n-9e, dr 4549 ft. Sivils et al's Montgomery 1, nw sw nw 7-9n-9e, ur 8-in csg 3100 ft. Sinclair Prairie et al's Wilkey 1, sw sw sw 23-9n-8e, rur. Blackwell O&G Co.'s Long 1, se ne nw 29-9n-9e, lcn.

JACKSON COUNTY—Jackman's Fee 1, sw sw sw 27-1s-24w, td 2528 ft, fsg 4 joints dr pipe. Burnham's Oliver 1, nw nw se 26-1n-20w, dr 1610 ft. Universal Oil Co.'s Briscoe 1, nw sw ne 36-1s-20w, dr 2631 ft. John Dickson et al's Wright 1, ne nw se 19-1n-19w, lcn. Pioneer O&G Co.'s Rawls 1, sw nw ne 26-1n-20w, rum.

JEFFERSON COUNTY—Campbell's Trout 1, se ne ne 6-8s-7e, td 2560 ft. Reno Oil Co.'s Gaun 1, se sw ne 35-6s-4w, abd 3176 ft.

JOHNSTON COUNTY — Moore & Wirick's Westheimer & Daube 1, se nw ne 19-3s-4e, dr 3550 ft. Magnolia's Green 1, ne ne ne 12-2s-7e, dr 1755 ft.

KAY COUNTY—Allen and Texas Co.'s Fulton 1, se se se 18-27n-4e, dr 70 ft.

LINCOLN COUNTY—Amerada et al's Zimmerman 1, sw sw ne 10-12n-5e, rig.

LOVE COUNTY—Sinclair Prairie's Stockton 1, se se sw 26-6s-2w, dr 7923 ft. Russell et al's Scott 1, sw se sw 29-8s-2e, sd 4968 ft. Amerada-Stanolind's Westheimer & Daube 1, sw se sw 27-6s-2e, bailing 6200 ft.

McCLAIN COUNTY—Arab Pet. Corp.'s Autry 1, nw nw nw 16-7n-3w, dr 8204 ft.

McCURTAIN COUNTY—Louis Sykes' Mitchell 1, cnw sw 12-9n-26e, spd & sd.

McINTOSH COUNTY—I.T.I.O.'s Toncred 1, sw nw se 9-9n-14e, pulled 6-in csg & pb. Phillips' 1, ne ne nw 3-9n-13e, digging cellar & pits.

NOBLE COUNTY—Continental's Pruitt 1, nw se sw 19-20n-1w, dr 5142 ft.

OKFUSKEE COUNTY—Champlin Ref. Co.'s Thompson 1, sw sw nw 7-13n-8e, dr 950 ft. Amerada-Stanolind's Wells 1, sw sw nw 7-11n-7e, dr 1260 ft.

OKLAHOMA COUNTY—Hollenbach et al's Cooper 1, nw nw ne 15-11n-1e, dr 5760 ft.

OSAGE COUNTY—Elfred's Beck 1, se se ne 6-23n-7e, running 8-in csg 1780 ft. Midco et al's 1, nw nw se 11-23n-6e, running 10-in csg 1085 ft. Champlin Ref. Co.'s 1, sw sw ne 35-25n-6e, dr 1310 ft. Gray & Tolson's 1, sw sw ne 33-25n-7e, rust.

PONTOTOC COUNTY — Sandback et al's Sands 1, ne ne ne 20-3n-5e, sd 475 ft.

SEMINOLE COUNTY — Amerada et al's Community Stout 1, ne ne sw 3-10n-5e, flowed 682 bbls oil in 18 hrs, comp. Imperial Drlg Co.'s Aldridge 1, sw ne nw 32-9n-8e, testing 1895 ft. Arkansas Royalty Co.'s Kiker 1, se se ne 9-10n-7e, spd & sd. Sinclair Prairie et al's Harrison 1, ne ne nw 17-8n-8e, coring 4290 ft. Tom Phillips & Kimraw Drlg Co.'s Cheparney 1, se se nw 7-6n-7e, cellar and pits.

STEPHENS COUNTY—Endicott et al's McFatridge 1, nw nw sw 11-3s-9w, dr 1300 ft. McCasland's Parker 1, ne ne sw 2-1n-6w, mim.

TILLMAN COUNTY—Gulf's Wearmouth 1, se nw se 31-1s-16w, td 4530 ft. Johnson, Young & Mitchell's Donahoe 1, se nw nw 7-4s-17w, lcn. Smith's Hammill 1-A, ne nw nw 6-5s-15w, dr 1125 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, sd 1465 ft.

WEST TEXAS

ANDERSON COUNTY — Grisham-Hunter Corp.'s Ratliff-Bedford 1, c nw¼ sec 24, blk 73, PSL sur, mim. Humble O&R Co.'s R. M. Means 7, near c se se sec 15, blk A-20, PSL sur, dr 2800 ft; J. M. Spinks 1, c sw se sec 13, blk A-20, PSL sur, Means area, elev 3172 ft, top anhydrite 1930 ft, top salt 1985 ft, lime pay 4514-4550 ft, show 420 qts nitro 4400-4530 ft, then used 4000 gals acid, flowed 304 bbls oil gas lift.

BREWSTER COUNTY—Floyd C. Dodson et al's Texas American Synd. 1-A, c ne ne sec 66, blk 10, GH&SA Ry. sur, deep test, elev 4228 ft, sd repairs 1654 ft.

COCHRAN COUNTY—Honolulu Oil Corp.-Cascade Pet. Co.'s T. B. & R. F. Duggan 1, c labor 13, league 55, Oldham County School Land sur, sp & sd.

CONCHO COUNTY—Maverick Oil Co.'s Jim Rice 1, sec 18, H&TC Ry. sur, blk 70, elev 1887 ft, top Strawn 1603 ft, pb fr 2454 ft to 1847 ft, shot 15 qts at 1827 ft, est 10 bbls oil and 250,000 ft gas, plus water. Walter C. Nelson et al's Jim Rice 1, c nw sw sec 13, blk 70, H&TC Ry. sur, dr 1240 ft. John W. Westbrook Co.'s C. C. Ledbetter 1, sec 2, blk 65, H&TC Ry. sur, A-1673, elev 2000 ft, sd 2560 ft.

CRANE COUNTY—Big Basin Pet. Co.'s Jax Cowden 1, NEc nw ne sec 77, blk "X," elev 2456 ft, top salt 548 ft, sd 2602 ft. Clark-Cooper & Smith's A. P. Jordan 1, NEc 160-ac lse, sec 12, blk B-22, PSL sur, machine. A. R. Eppenauer & A. H. Livingston's Livingston 1, sec 13, blk 6, H&TC Ry. sur, Ordovician test, lcn. Gulf Oil Corp.'s W. N. Waddell et al 2, c ne sw sec 18, blk B-21, PSL sur, Ordovician lime test, reaming, td 1742 ft. Gulf & T. B. Cranfill's J. B. Tubb 2, NEc sec 12, blk B-27, PSL sur, top salt 500 ft, cem 12½-in csg 475 ft, td 622 ft. Humble's J. B. Tubb 2, c se nw sec 11, blk B-27, PSL sur, top anhydrite 400 ft, top salt 630 ft, dr 3885 ft. Loffland Bros. et al's J. B. Tubb-Gulf 1, c nw¼ sec 9, blk B-27, PSL sur, elev 2540 ft, top anhydrite 428 ft, salt series 495-1285 ft, top brown lime 2478 ft, sd 4510 ft; Tubb-Gulf 2, SEc n½ sec 9, rig. John I. Moore et al's T. C. Barnsley 1, c sw sec 43, blk 32, PSL sur, Ordovician lime test, elev 2472 ft, top anhydrite 500 ft, top salt 680 ft, top brown lime 2355 or 2470 ft, dr 3795 ft. Rider & Pershing's N. S. Thaxton 1, e¼ sec 2, W. T. Wilkenson sur, sp & sd. Sinclair Prairie and unit members' J. B. Tubb-California 1, SEc sec 3, blk B-27, PSL sur, elev 2540 ft, est 3 bbl pumper at 2962-3164 ft, dr 4155 ft. L. R. Stroud et al's J. Mosley 1, sec 4, blk 31, H&TC Ry. sur, elev 2373 ft, top anhydrite 525 ft, top salt 820 ft, sd 1910 ft.

CROCKETT COUNTY—J. W. Dieringer, B. C. Mann & E. M. Wahlenmaier's J. W. Robbins 1, sec 2, blk B, GC&SF Ry. sur, A-5498, elev 2655 ft, top anhydrite 585 ft, top salt 660 ft, top lime 2037 ft, dry & abd in sul w 2164-65 ft. John I. Moore et al's A. C. Hoover 1, SEc sec 4, blk "FF," B&B sur, ur 735 ft.

JEFF DAVIS COUNTY — C. M. "Dad" Joiner et al's Jones-Coffield 1, ne¼ sec 8, blk 3, H&TC Ry. sur, dr 3705 ft.

ECTOR COUNTY—Barnsdall Oil Co.'s H. C. Foster 2, c sw sw sec 18, blk 42, T&P Ry. sur, T-2-S, elev 2936 ft, top Yates sand 2855 ft, top lime 3830 ft, pb fr sul water at 4234-37 ft to 4225 ft, shot 420 qts 4040-4222 ft, completed 247 bbls daily on pump. W. H. Dunning, Jr., et al's H. F. Cummins 1, NEc se¼ sec 33, blk 45, T&P Ry. sur, T-1-N, elev 3220 ft, top anhydrite 1440 ft, top salt 1480 ft, top Yates sand 2760 ft, top lime 3820 ft, td 3935 ft, sd to re-cem 10-in csg 1328 ft. Grisham-Hunter Corp. et al's R. B. Cowden 1, c nw sw sec 10, blk 45, T&P Ry. sur, T-2-N, lcn. Gulf's C. A. Goldsmith-Scharbauer 5, ne¼ sec 22, blk 44, T-1-S, dr 3920 ft; Goldsmith-Scharbauer 6, NEc nw¼ sec 4, blk 44, T-1-S, top anhydrite 1461 ft, dr 4135 ft. Stanolind's E. F. Cowden 1-B, NEc sec 14, blk 43, T&P Ry. sur, T-2-S, Foster area, elev 2970 ft, top anhydrite 1720 ft, top salt 1827 ft, top gray lime (est.) 3905 ft, top pay 4028-36 ft, dr 4155 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Chas. & L. M. Kinkel 1, NEc sec 237, S. F. No. 7232, trace oil 1975 ft, testing.

FISHER COUNTY — Forest Development Co.'s A. M. Dry 1, near c sw se sec 108, blk 2, H&TC Ry. sur, dr 2645 ft. Tide Water & Merry Bros. & Perini, Inc.'s M. Howard 3, NWc se ne sec 180, blk 2, H&TC Ry. sur, dr 2990 ft.

GAINES COUNTY—Landreth Prod. Corp. et al's W. H. Kirk 1, swc sw¼ sec 22, blk A-21, PSL sur, elev 3271 ft, top anhydrite 1950 ft, salt series 2047-2725 ft, cem csg 2735 ft.

GLASSCOCK COUNTY — Fleetborn Oil Corp.-Mid-Continent Pet. Corp.'s F. C. Dodson 1, SEc sec 13, blk 34, T&P Ry. sur, T-3-S, elev 2714 ft, top lime 2332 ft, fsg csg 2137 ft. Bruce Frazier et al's E. Patterson 1, NWc ne ne sec 188, blk 29, W&NW Ry. sur, sp & sd. Shell Pet. Corp.'s L. S. McDowell 1, s½ sec 41, blk 34, T&P Ry. sur, T-2-S, lcn.

TOM GREEN COUNTY—J. P. Williams & L. L. Ingraham's J. W. Johnston 1, se part 160-ac lse, D. Chandler sur, lcn. Spinner Oil Co. (was Adkins Bros. et al's) B. Reed 1, SWc Sub-Div. 39, Mayson & Perry sur, sd 2035 ft.

HOCKLEY COUNTY—The Texas Co.'s Bob Slaughter 1, League 38, Zavala C. S. L. sur, lcn.

HOWARD COUNTY—D. C. Reed & C. J. Schmid's Walter Pike 1, c se se sec 24, blk 33, T&P Ry. sur, T-1-N, dr 450 ft. Southern Oil Corp.'s W. P. Edwards 1, SWc sec 32, blk 30, T&P Ry. sur, T-1-S, dr 2030 ft.

HUDSPETH COUNTY—Haymon Krupp Oil & Land Co.'s S. J. Thaxton 1, near SEc ne se sec 34, blk 74, T&P Ry. sur, Tsp. 6, dr by junk, td 893 ft.

JONES COUNTY—Bob Elmore et al's O. L. Caton 1, sw¼ sec 10, D&DA Lands sur, dry & abd in salt w sand 2209-15 ft. Thos. D. Humphrey et al's J. M. Radword 1, nwc sw sw sec 19, blk 16, T&P Ry. sur, dr 1710 ft. Ungren & Frazier's H. Woods 1 (587-ac), nwc sec 53, blk 15, T&P Ry. sur, ur 1759 ft.

LOVING COUNTY—Mason Oil Co.'s Minnie Kyle 2, nec nw ne sec 17, blk 55, T&P Ry. sur, Tsp. 1, lcn abd. Porter Rankin et al's W. D. Johnson 1, nw¼ sec 12, blk 57, T&P Ry. sur, Tsp. 1, elev 2904 ft, top Delaware lime 3119 ft, top Delaware sand 3151 ft, showing o & g with water, testing 3188 ft.

MARTIN COUNTY — Woodley Pet. Co.-Kirby Pet. Co.'s F. A. King 1, nwc sw¼ sec 30, blk 35, T&P Ry. sur, T-1-S, elev 2667 ft, top anhydrite 1420 ft, top salt 1545 ft, top Yates sand 2195 ft, dr 3615 ft.

MENARD COUNTY—Wilcox O. & G. Co.'s Lee Murchison 1, swc sec 158, Abst. 1840, elev 2190 ft, dr 2400 ft.

NOLAN COUNTY—N. B. Hall, A. Glenn et al's Georgia Tech 1, sw¼ sec 89, blk 24, T&P Ry. sur, elev 2330 ft, td 200 ft, may dd. David Thomas, Ridgeway et al's Mrs. G. W. Cochran 1, ne¼ sec 113, blk 1, H&TC Ry. sur.

PECOS COUNTY—Dobbs Oil Co.'s J. M. Rooney 1, near c ne ne sec 12, blk 125, T. & St. L. Ry. sur, elev 3005 ft, top anhydrite 970 ft, dr 1245 ft. Stanley A. Thompson et al's Elsinore Cattle Co. 1, se¼ sec 53, blk D, GC&SF Ry. sur, Ordovician lime test, dr 345 ft. Trans-Texas Oil Co.'s F. M. Gallaher 1, nec nw sec 9, blk 51, T&P Ry. sur, Tsp. 10, sp & sd; Popham Land & Cattle Co. 1, se¼ sec 235, blk 11, GH&SA Ry. sur, dr 545 ft.

PRESIDIO COUNTY—Linderman Bros. Oil Co.'s R. I. Bledsoe 1, swc ne¼ sec 15, blk 351, GC&SF Ry. sur, sd 1635 ft.

RUNNELS COUNTY—Golden Pet. Co.-John Castor's H. Giesecke 1, blk 150, sub-div 3, Jas. Hughes sur, sd 125 ft. Melrose Oil Co.'s Mrs. L. P. Wood 1, nwc 30-ac lse, Willett Holmes sur, No. 100, sd 2926 ft.

REAGAN COUNTY — F. Oyster, R. R. Rhodes & E. R. Bahan's M. H. Chase 1, c ne¼ sec 40, blk 36, T&P Ry. sur, T-5-S, dr 780 ft.

SCHLEICHER COUNTY—Cardinal Oil Co.-Rowan-Nichols Oil Co.'s J. A. Whitten 1, c ne nw sec 35, blk L, TC Ry. sur, elev 2353 ft, dr 4120 ft. Mangus Oil Corp.'s Judkins-Spencer (Pure) 1, c sw ¼sec 4, GC&SF Ry. sur, blk V-28, or Hooper-Wade sur, blk A, elev 2209 ft, show gas 4350-70 ft, fsg 5490 ft.

SCURRY COUNTY—J. G. Bristow & R. H. Cantrell's Shannon-Magnolia 1, c nw¼ sec 331, blk 97, H&TC Ry. sur, elev 2552 ft, top anhydrite 848 ft, top salt 860 ft, sd 3505 ft. C. W. Guthrie et al's T. E. Sorrells 1, sec sec 101, blk 97, H&TC Ry. sur, sd 412 ft.

STERLING COUNTY—W. B. Hogan et al's Geo. Richardson 1, sec 110, blk 6, H&TC Ry. sur, lcn.

TERRELL COUNTY—F. C. Bates & J. H. Felps' J. H. Felps 1, sec nw¼ sec 5, G. W. Turley sur, blk A-4, elev 2185 ft, sd 5635 ft.

UPTON COUNTY—Greencliff Oil Corp.'s J. H. Tippett-Halff 1, c ne¼ sec 58, blk Y, TC Ry. sur, elev 2648 ft, top anhydrite 1254 ft, top salt 1312 ft, top Yates sand 2313 ft, top lime 4284 ft, dry and abd in sul w, td 4373 ft.

WINKLER COUNTY—Crafton Oil Co. et al's J. B. Walton-Pure 2, swc ne¼ sec 1, blk B-3, PSL sur, lcn. Wm. H. Dunning, Jr. et al's B. F. Jenkins 1, swc s½ s½ sec 21, blk 77, PSL sur, dk. Bert Fields et al's Roy Clapp-Pure 1, nec ne¼ sec 26, blk 26, PSL sur, elev 2861 ft, top anhydrite 875 ft, base salt 2385 ft, top lime 2405 ft, testing for shot 2900 ft. Gulf Oil

Corp.'s Keystone 12, nec sec 10, blk B-3, PSL sur, td 3515 ft, shot 300 qts nitro at 3380-3500 ft, flowed 830 bbls oil plus 14% bs&w and 5,000,000 ft gas, later flowed 409 bbls oil and 66 bbls w in 24 hrs via tubing; Keystone 13, rig. R. H. Henderson et al's J. B. Walton-Humble 1-B, sec sw¼ sec 10, blk 26, PSL sur, elev 2868 ft, top anhydrite 1300 ft, salt series 1469-2710 ft, top lime 2810 ft, co; and swab 80 bbls oil daily td 3045 ft; Walton-Humble 2-B, nwc sec 10, completed, est 200 bbls oil per hour and 5,000,000 ft gas daily, td 3151 ft. Humble's J. B. Walton 2-C sw ne sw sec 34, blk 74 PSL sur dr 1575 ft. Fred Hyer et al's Cowden Cattle Co. 1, c nw¼ sec 8, blk A-56, PSL sur, elev 3082 ft, top anhydrite 1230 ft, top salt 1390 ft, dr 4010 ft. Illinois Oil Co.'s Abilene Central State Bank-Conoco 1, sec sw¼ sec 23, blk 26, PSL sur, elev 2858 ft, top anhydrite 855 ft, top lime 2360 ft, td 3116 ft, shot 540 qts nitro at 2840-3110 ft, fld 287 bbls oil daily; McCutcheon-Conoco 1, nwc sw¼ sec 16, blk B-3, PSL sur, rig. C. M. "Dad" Joiner et al's Cowden-Evans 1, near c nw¼ sec 46, blk 73, PSL sur, elev 3203 ft, top anhydrite 1580 ft, top salt 1640 ft, top Yates sand 2930 ft, dr by bit, td 3168 ft. K. D. Oil Co.'s Pink Mitchell 1, nwc s½ ne¼ sec 23, blk B-10, PSL sur, elev 2814 ft, top anhydrite 1010 ft, top salt 1070 ft, sdo 1150 ft. W. L. & E. J. McCurdy et al's W. A. McCutcheon-Pure 1, swc sec 16, blk B-3, PSL sur, elev 2874 ft, top anhydrite 862 ft, base salt 2367 ft, top lime 2435 ft, sd for shot 2980 ft. Reed & Duffy's John Sealy 1, nwc sec 8, blk "A," GMMB&A sur, mim. Wahlenmaier Pet. Corp.'s J. B. Walton-Leck 2, swc sec 3, mim. Superior O&G Co.'s M. J. Hill 1, sec e½ sw¼ sec 18, blk 11, PSL sur, elev 2761 ft top lime 2228 ft, dr 2875 ft. Wahlenmaier Pet. Corp.-Atlantic O. P. Co.'s J. B. Walton-Humble 1, sec sw¼ sec 34, blk 74, PSL sur, elev 2874 ft, top anhydrite 1160 ft, top salt 1440 ft, top lime 2640 ft, making gas, sd 2883 ft.

YOAKUM COUNTY—E. R. Bahan & R. R. Rhodes' Mrs. Alice Henard 1, c sw¼ sec 367, blk D, John H. Gibson sur, rur. Lou G. Stogner et al's Googins-Roosevelt 1, sec ne¼ sec 215, blk D, John H. Gibson sur, sp and sd.

EAST TEXAS

ANDERSON COUNTY—Tide Water & Seaboard's J. N. Edens 15 (988.6-ac), Samuel Snider sur, Cayuga area Trinity test, 3700 ft fr e and 1917 ft fr n lines lse, rur. Comer E. Todd et al's W. T. Todd 1 (100-ac), A. B. Patton sur, Boggy Creek field, sd 2392 ft. Gulf Oil Corp.'s M. J. Ross 1 (54.7-ac), Robt. Erwin sur, Camp Hill area, elev 487 ft, top Georgetown lime 5452 ft, dd fr 5476 ft.

BOWIE COUNTY—Ben J. Russell et al's O. A. Hall 1, J. W. Weaver sur, 9 mi sw New Boston, elev 316 ft, top Annona chalk 1646 ft, sd 3424 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, elev 290 ft, Annona chalk 1665-2090 ft, sd 3260 ft.

CASS COUNTY—American-Liberty Oil Co.'s D. A. Maxcy 2 (86-ac), John Collum sur, elev 265 ft, Annona chalk 1989-2621 ft, top Red Beds 3450 ft, dr 4800 ft; Maxcy 3, elev 264 ft, top Annona chalk 1950 ft, top Red Beds 3485 ft, dr 3950 ft; Maxcy 4, elev 294 ft, rig; Marcus Rambo 1 (86.9-ac), J. H. Rives sur, elev 265 ft, top Red Beds 3330 ft, top anhydrite 5019 ft, massive anhydrite 5292-5530 ft, top Hill sand 5680 ft, pb fr 6073 ft. Adair Heath et al's Moore Branch School 1 (2-ac), M. Reams sur, lcn. E. Key, Jr., et al's C. M. Barkett 1 (2.74-ac), John Collum sur, lcn. McElvain & Beckett's D. A. Maxcy 1, B. J. Murray sur, elev 235 ft, top Red Beds 3435 ft, dr 3750 ft. Magnolia Pet. Co. (was R. W. Norton, Tr.'s) L. A. Haywood 2 (440-ac), P. Evans sur, elev 255 ft, Annona chalk 2014-2485 ft, top Red Beds 3422 ft, dr 4000 ft; Mary Rives 2 (85-ac), John Collum sur, elev 225 ft, Annona chalk 1925-2475 ft, top Red Beds 3441 ft, top anhydrite 4990 ft, massive anhydrite 5260-5512 ft, top Hill sand 5640 ft, testing, td 6003 ft. The Texas Co.'s E. E. Hall 1 (60-ac), Jas. Young sur, elev 299 ft, top Annona chalk 2050 ft, cem cas 2206 ft; Hall 2, lcn. G. H. Vaughn Production Co.'s R. P. Willis (67-ac), 1 to 9 lcns. United Prod. Corp.'s 1 (61¾-ac), John Collum sur, elev 252 ft, top Annona chalk 1948 ft, dr 2400 ft; Fields 2, elev 268 ft, dr 2260 ft; Fields 3, elev 272 ft, dr 1700 ft; F. S. Simpson 1 (160-ac), J. Young sur, rig; J. T. Stewart 1 (49-ac), John Collum sur, elev 231 ft, dr 2300 ft.

CHEROKEE COUNTY—R. L. Peveto, Howze & Mayo's C. R. Kelley 1 (66.78-ac), (east) Jose Pineda sur, 3 mi n Jacksonville, elev 565 ft, Pecan chalk 3440-3772 ft, Austin chalk 4420-4506 ft, dry & abd 4875 ft. Humble's Sam D. Goodson 1 (55-ac), I. Reynolds sur, 1 mi ne Ironton, elev 428 ft, top Pecan chalk 3590 ft, dr 3700 ft.

COLLIN COUNTY—Port Bolivar O. & R. Co.'s O. G. Durning-Clarkston 1-A (140-ac), Wm. Creager sur, Pat. 1193, elev 722 ft, sd 3866 ft.

FRANKLIN COUNTY—Lucey Pet. Co. et al's A. W. Crawford 1 (25-ac), O. James sur, elev 371 ft, top Pecan chalk 1590 ft, dr 3400 ft.

FREESTONE COUNTY—Tide Water & Seaboard Oil Corp.'s J. L. Johnson 2 (894-ac), H. Wheeler sur, Long Lake area, elev 250 ft, Pecan chalk 3557-3824 ft, Austin chalk 4686-4964 ft, Sub-Clarksville sand 5010-23 ft, top Woodbine series 5228 ft, top sand (gas) 5250-94 ft, td 5300 ft, flowed 86½ bbls oil 15 hrs ¼-in choke. J. C. Yancey & Lovering's M. Scott 1, H. Awalt sur No. 4, 7 mi n Fairfield, sp & sd. Roger Stewart & Watson's Trinity Farm Securities Co. 1 (45-ac), R. M. Williamson sur, Cayuga area, dr 600 ft.

GRAYSON COUNTY—Olson Drl. Co.-James H. Gardner et al's SW Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, top Sylvan shale 4870 ft, Viola lime 4901-5096 ft, fsh dp, td 5890 ft. Port Bolivar O. & R. Co.'s Creed Taylor 1 (160-ac), J. Fitzhugh sur, 3 mi se Gunter, sd 3931 ft.

HENDERSON COUNTY—Wm. McDougal, Tr., et al's Elvira Price 1 (216-ac), M. Mathews sur, 4 mi s Trinidad, dk. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, elev 359 ft, top Pecan chalk 2300 ft, sdo 2800 ft.

HOUSTON COUNTY—Branch et al's P. S. Griffiths 1, Frank Johnson sur, 3 mi sw Crockett, lcn.

KAUFMAN COUNTY—J. M. Scott & J. B. Woodside's E. Robinson 1 (80-ac), A. Chirnio sur, 2 mi w Scurry, dk.

LAMAR COUNTY—Barrett, Saloman & Brooks' Haynes-McCuistion 1 (25-ac), A. W. Wright sur, 4 mi ne Garrett Bluff, fsh 1600 ft. J. A. Forrester et al's J. S. Woodward 1 (18¾-ac), J. W. Woodward sur, 1½ mi e by s of Minter, elev 402 ft, top Georgetown lime 2256 ft, Paluxy sand with trace gas 3060-3144 ft, top anhydrite 3735 ft, base hard anhydrite 4075 ft, broken to 4105 ft, sd 4516 ft.

LIMESTONE COUNTY—C. F. Lytle et al's J. L. Thompson 1-T (141-ac), w side Mexia field, Trinity test, elev 459 ft, td 6200 ft, cem 7-in csg 6100 ft, to pb & test by stages. G. L. Rowley et al's Dean Hrs. 1 (75-ac), P. Varella sur, 3½ mi sw Mexia, dr 1750 ft.

MORRIS COUNTY—Raycotuck, Inc.'s P. M. Staggers 3 (40-ac), J. D. Nelson sur, elev 369 ft, pb fr 4139 to 1500 ft account crooked hole, top Pecan chalk 2500 ft, co 4460 ft.

NAVARRO COUNTY—Wm. A. Reiter et al's T. W. Bounds 2 (300-ac), H. Shelton sur, 1 mi sw Currie, elev 407 ft, td 1393 ft, re-cem surface csg.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Temple Lumber Co. 1, D. D. Bruton sur, 10 mi ne Clarksville, elev 407 ft, sp. Annona O. & G. Co.'s Leo & Otto Roberts 1 (200-ac), Jas. Bankston sur, 2 mi ne Annona, elev 396 ft, Pecan chalk 40-380 ft, sd 725 ft. R. H. Manning & Texfornia Co.'s Hocker-Hughes 1 (80-ac), MEP&P Ry. sur No. 642, 6 mi sw Lydia, sp & sd. B. B. Orr et al's Kurth Lumber Co. 1, Elizabeth Smith sur, 11 mi ne Clarksville, top Georgetown lime 600 ft, dry & abd, td 1205 ft.

ROCKWALL COUNTY—W. H. Carlin et al's W. H. Lofland 1 (54-ac), M. B. Jones sur, ¾ mi w Rockwall, sp &sd. R. J. Sherman & Dodd's M. F. Lofland 1 (392-ac), W. H. Beard sur, 2½ mi se Rockwall, sd 750 ft.

RUSK COUNTY—McCallum et al's E. C. Gary 1 (265-ac), John Piburn sur, 5 mi s Henderson, elev 338 ft, Pecan chalk 2448-2715 ft, top Austin chalk 3224 ft, sd 3750 ft. Pure Oil Co.'s W. H. Faulkner 1 (60-ac), Wm. Elliott sur, 5 mi e Mount Enterprise, Trinity sand, or 8500-ft test, elev 563 ft, Pecan chalk 2650-2890 ft, show gas when cut through fault at 2599-2609 ft, top Austin chalk (soft) 3286 ft, top hard chalk 3283 ft, top Georgetown lime 3446 ft, dr heaving shale 4490 ft. J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, top Pecan chalk 2355 ft, td 3510 ft, jkd & abd.

SMITH COUNTY—W. L. Cloud et al's Dora Kendall 1-A, John Williams sur, 3 mi e Van field, sd 1290 ft. Kelso & Thompson's McClung 1 (23½-ac), E. Newberry sur, 1 mi e Winona, elev 449 ft, Pecan chalk 3335-3660 ft, sd 3780 ft.

TITUS COUNTY—Humble's Myra Galt 1 (80-ac), R. I. Winn sur, A-622, elev 346 ft, Pecan chalk 1658-1785 ft, Georgetown lime 3444-4169 ft, top Paluxy oil sand 4186 ft, cem 7-in csg 4170 ft, td 4349 ft; M. B. Groves 1 (82.9-ac), Ben Jones sur, elev 309 ft, Pecan chalk 1591-1733 ft, Eagle Ford shale 2862-3240 ft, top Woodbine 3240 ft, top Red Beds 3590 ft, top Georgetown lime 3991 ft, td 4492 ft, cem 8¼-in csg 4475 ft, sdo; M. B. Groves 2 (1440 ft s No. 1), elev 352 ft, Pecan chalk 1660-1854 ft, top Georgetown lime 3680 ft, top Paluxy series 4183 ft, top Paluxy oil sand 4189 ft, td 4355 ft, run csg. C. M. (Dad) Joiner et al's Huensch 1 (1416-ac), Henry P. Banks sur, 12 mi e Talco, elev 317 ft, Pecan chalk 1896-2122 ft, broken chalk to 2398 ft, dr 4361 ft. Magnolia's C. M. Carr 1 (70-ac), M. V. Delgado sur, elev 371 ft, Pecan chalk 1634-1790 ft, top Austin chalk 3010 ft, Georgetown lime 3952-3979 ft, top Fredericksburg shale 3979 ft, dr 4135 ft. B. C. Morrison et al's Lewis Sanders 1, c lot 1, block 30, Talco townsite, elev 371 ft, dk.

SOUTH TEXAS

ARANSAS COUNTY—Buckingham Oil Co.'s Campbell 1, lots 8 & 9, sec 41; lots 8 & 9 sec 42, McCampbell subd, James Orick sur, 2 mi nw Aransas Pass, 8 ft fr San Patricio County line, sands showed on electric formation test from 5425-7120 at 6534-46, 6819-24, 6900-07, td 7501 plugged back to 6545 ft, blew out while making DST, showed 2250 lbs pressure wet gas, oil from pits tested 25.5 grav, attempting to remove drill pipe, recovered about 725 ft, may abnd and drill new hole.

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust), U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell sur No. 1222, 3 miles n Poteet, coring 3500, basal Taylor. Cliff Oil Co.'s San Antonio Joint Stock and Land Bank (H. A. Billinck) 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, dry and abnd 3185 ft. W. B. Hin-

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ton's Weigand 1, in Donovan sur No. 124, 14 mi e Campbellton, lcn.

BASTROP COUNTY — Howell & Appleton's Herman Klemm 1, Richard Teal sur, sd 1229 ft. Marts & Beavens' Parkford & Jenkins 1, center lot 24, Bastrop Town tr, ru. J. E. Mills' C. O. Randel 1, 100-ac tr, B. Brymer sur, 4 mi se Cedar Creek field, td 2266 ft, set 5-3/16 in csg at 2228, acidized and sd.

BEE COUNTY—Geo. M. Church et al's G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, drlg 4023 ft. Fred Haworth Jr's J. E. Copeland 1, 330 ft nl and wl of lse, Obed Marshall sur, 3½ mi nw Pettus, ru. Howeth & Swiger's C. A. Voss 1, 330 ft swl and 990 ft nwl of Samuel May sur, Ab 230, 2½ mi sw West Tuleta field, lcn. Illinois Pet. Co.'s Imogene Hall 1-C, 380-ac tr, H. W. Fontaine sur, ½ mi n Dirks field, coring 3640 ft. Marine Oil Corp.'s J. C. Woods 1, 427-ac tr, J. Ryan sur discovery well, Beeville field, td 5831 ft, reinstate to rework, now ru. H. A. Pressey's R. T. Hicks 1, 1120-ac tr, Jose M. Uranga Gr, ab 568, 4½ mi s of Normana, sd 3466 ft.

BEXAR COUNTY—American Gas Co.'s Oliver No. 5, 400-ac tr M. F. Rodriguez sur, Gas Ridge, prep to re-run csg 3005 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Chrisopher sur, 3 mi s Von Ormy, still sd at 968 ft. Joe Deupree's Mr. R. S. Nina (R. S. Coffey) 1-A, Rodriguez sur, 7 mi s San Antonio, td 1200 ft, testing; S. G. Winter 1, 100-ac tr in Fernando Rodriguez sur, one mi w of Russell 1, sd 1425 ft. Dorine Oil Co.'s S. Tudyk 3, 315-ac tr, J. Cardinas sur No. 25, one mi sw of St. Hedwig, dry & abnd 627 ft. Nick Morosis' T. O. de Ruiz 1, F. Rolen League and Labor sur No. 48, just s of Von Ormy, dr 450 ft. H. J. Moore's Mrs. Lena Eisenhauer 1, 80-ac tr in Gertrude Rodriguez sur, 9 mi ne of San Antonio, sd 692 ft. O. M. Owensby's Minna Coreth 1, 284-ac tr, Adam Stafford sur No. 49, e Eckert field, still sd 1091 ft. W. H. Schaeffer Co.'s A. Mihaliski 2, 98-ac tr, J. M. Bustillos sur, 1 mi n St. Hedwig, dr 577 ft. H. B. Schumacher's Hilda Gillette 1, 49-ac tr, M. G. de Alamiz sur No. 20, 7 mi s San Antonio, re-dr 704 ft. F. M. Shaver's A. W. Bitter 2, Jose Baerrera sur No. 58, 2 mi nw Von Ormy, dr 712 ft. Fred Thorman's A. L. Salm 1, 330-ac tr, Hays sur No. 3, 2 mi s Martinez 1, dr 315 ft. R. P. Whitfield et al's Col. John Sweeny, 1700 ft fr 2, cor of tr and 2112 ft nl of 340-ac tr, GH&SA RR sur, 11 mi sw San Antonio, ru.

BROOKS COUNTY—California Co.'s B. Garcia 1, tract No. 3 Las Mestinas de Gonzalina Gr, Alta Mesa dist, coring 5965 ft. Nordan & Morris & Jim Nash's Wm. Singer 1, 835 ft sl, 495 ft el of sec 312, Alta Verde, set 40 ft of 8-in csg, woc. Pedernal Oil Co.'s Wm. Singer 1, 360 ft sl, 280 ft wl nw¼ sw¼ sec 436, Alta Verde, dr 810 ft.

CALDWELL COUNTY — Detroit-Texas Dev. Co.'s W. P. Dunlap 3-A, S. F. Sanders sur, Dunlap area, temp abnd 2390 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur 5 mi e Luling, sd 27 ft to lay new water line. W. C. Jennings & Whittington's McMahan 1, James Pinchback sur, se Lockhart, td 2324, 5-3/16 csg at 1995 ft, acidized with 2000 gals. W. W. Lincoln's W. Branyon 2, 20-ac tr, Dillard Cooper sur, Branyon, dr 1100 ft hard sand Odgen & Reed's Mamie Barber et al 1, 65-ac lse, Squire Damon sur, 5 mi nw of Dale, sd 2004 ft; Mamie Barber et al 2, 65-ac lse, Squire Damon sur, ru to pump 2164 ft. M. R. Tinkle et al's Arnold 1, S. Seal sur, Dunlap area, dropped.

CALHOUN COUNTY — Continental's Vandenberg 1, sec 12, blk "H" Pedro Garcia sur, 1 mi n of other heaving shale wells, Seadrift prospect, prep to spud. Humble and Plymouth Oil Co.'s P. H. Welder 2, 1937.6-ac tr, J. M. Rios sur, 2 mi n Heyser, sand 5452-58 ft, cap 5458-59 ft, sand 5459-66 ft, dst 5446-66 ft show 350 lbs 120 ft oil, mud and dr fluid 10 min, ream and dst 5459-66 ft show 240 ft oil, oily mud and dr fluid 15 min, coring ahead. Hilton & Miese's J. Brundrett 1, in Wm. Little sur, reinstated, sd 192 ft, to move in materials.

DEWITT COUNTY — Southwestern Dev Synd Ltd's W. L. C. Poetter 1, 590-ac tr in Obed Marshall sur, 1320 ft w Slick field discovery well, lcn. Universal & Gillespie's Schubel 1, C. Fitzgerald sur, abt 2 mi nw Yoakum, 1370 ft, faint oil show.

DUVAL COUNTY—Atlantic and Darby Pet Co.'s J. F. Welder 1-F, 2310 ft nl and el sec 552, 1 mi w discovery well Loma Vista field, sp. Calibdo Oil Properties, Inc. (C. H. Buckley et al) C. S. Tinney 1, sur 8, Piedras Pintas, dry and abnd 4004 ft. G. E. Glasscock's Milano Land & Garden Co. 1, sur 87, 6 mi se of Gov't Wells, sd 2051 ft. Frank J. Gravis et al's Gravis et al 1, sec 250, 9 mi w San Diego, coring 5040 ft, hard sand. Kepley Prod. Co.'s C. D. Sevier 1, sur 71, Santa Rosalia Gr, 7 mi nw Driscoll field, td 3410, set 5½ in csg 3233 ft, perf 3165-71 with 10 shots. Magnolia Pet Corp's Ira G. Yates 1, sur 556, 7 mi se Seven Sisters, coring 3500 ft. Marzo Oil Co.'s E. R. Hagist 3, sec 269, 1 mi ne Eagle Hill, dr 1820 ft. M. D. Mastin's D. Ruiz 1, sur 128, 1 mi w Hoffman field, sd 60 ft. Rio Bravo Dr. Co. et al's W. R. Peters 1, 160-ac lse, sec 397 J. H. Gibson sur 2 mi e Kohler field, sd 1400 ft, for repairs. Santa Clara Oil Co.'s R. Serna Jr., 1, sw¼ sec 521, three mi e Loma Vista, sp. Shell Pet. Co.'s J. F. Welder heirs 1, 330 ft nl, 990 ft wl 80-ac lease, sec 103, s offset Alta Vista discovery well, coring 2385 ft. Smith & Hamill's M. C. Hubbard 1, sur 69 one mi s of Loma Novia field, dr 2435 ft last rept. Stanolind's Ira G. Yates 4, 2142 ft wl, 3149 ft sl sec 560, ½ mi s discovery well, Labbe field, lcn. J. T. Stover's W. J. Hester 1, 330 ft sl, 990 ft wl ne¼ sec 47, west outpost Gov't Wells, set 23 ft 10 in csg, woc.

EDWARDS COUNTY — Paul Teas' J. B. Stewart 1, sec 2, GC&SF sur, 14 mi se Rock Springs, caving hole just below 5290 ft.

FAYETTE COUNTY—Ben G. Barnett's Sandy McKinnon 110-ac tr, Adam Zumwalt League, 10 mi nw Flatonia, co 3140 ft to re-dr.

FRIO COUNTY—Amerada's T. G. McWilliams et al 1 (tr 17) J. M. Tijerina sur 300, Pearsall, top Austin chalk 5439 casing 5442, td 5676, testing; Halff & Oppenheimer 7, B. J. Gilman sur Pearsall, sd 3926 ft; W. H. Smith 2, 1476-ac tr and J. V. Mason sur No. 322, Pearsall, dr 2275 ft. T. Davis et al's Halff & Oppenheimer 1, J. D. Clare sur No. 336, 1 mi ne Pearsall deep production, sd 5433 ft, top chalk 5330 csg 5337. Midland Oil Co.'s San Antonio Joint Stock & Land Bank 1, 60.8-ac tr, J. C. Woodward sur No. 2, 1 mi s of Pearsall, townsite, to deepen from 4069 ft. Termo Co. of Texas' A. L. Arp 1, 102-ac tr, Blair sur 4000 ft w Pearsall prod, sp.

GOLIAD COUNTY—Cotton Belt O&G Co.'s M. Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, sd 5545, hard cap 5530-44; soft sand 5544-45, bridged 3205, ds stuck, may abnd and dr new well. Magnolia's S. J. Tipton 1, A. S. Thrumond sur, near common cor of Karnes-DeWitt-Goliad counties, dry and abnd 4643 ft. Porter et al's J. R. Kauffman 1, 40-ac lse, Trevino sur, 1000 ft e Brown & Wheeler 1-C Hords Creek, lcn abnd.

GONZALES COUNTY—O. M. Owensby et al's H. B. Steen 1, N. M. Bane sur, sd 2135 ft. Tull et al's Boska 1, 61.2-ac tr, B. McClure sur, sd 1956 ft.

GUADALUPE COUNTY—Paul Armstrong's Clem Brodnaux 1, 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, sd 2426 ft, lime. J. E. Clark's E. W. Williams 1, Green DeWitt sur No. 13, 4000 ft sw S Darst Creek, top Austin chalk 2358 ft, coring 2366 ft. Clark & Gay's Waldrip 1, center 1½-ac tr Staples Townsite, G. Allen sur, dry and abnd 927 ft, top Austin chalk 715 ft. Clark & Weinert's Anderson 1, Green DeWitt sur No. 11, 6 mi s Kingsbury, dr 1800 ft, sandy shale. Louis Crouch's J. Getzke 1, J. D. Clements sur, Zoboroski, td 2250 ft in chalk, testing; Frank Zoboroski 1, 70-ac tr, J. D. Clements sur, Zoboroski, td 2722 ft, made 3000 bbls sul water from Edwards lime. Eickenroht & Gallagher's O. H. Jahns 1, 840-ac tr, Green DeWitt sur, 3 mi sw South Darst Creek, dr 2888 ft, top Austin chalk. A. D. Locke's J. S. Slaughter 1, 105.3-ac tr, Cyrus Campbell sur, 1 mi nw Staples, sd 1050 ft. W. J. Walton et al's W. F. Krueger 1, 150 ft sl and wl of tr in H. Branch sur, just n Zoboroski area, set 10 in at 98 ft, woc.

HIDALGO COUNTY—Dean Bros.' George 1, tr 13, porc 41, Reynosa Juris, 700 ft n of Samfordyce prod, td 2754 ft, 7 in csg 2751 ft, washing. Gerald O&G Co.'s Nelson Mortgage Co. 1, blk 38, lot A La Blanco Agricultural sub, 4 mi s city of Donna, dr 3597 ft. Gulf States Oil Co.'s J. C. Engelman 3, lot 3, blk 70, Las Mestinas Gr, 700 ft e of Mestenas field disc well, dr 6650 ft, gas sand 6365-73 ft. King-Woods Oil Co.'s Osca Daskam 2, blk 30 porc 45, Reynosa Juris, 10 mi w of Mission, lcn temp abnd. Maxwell-Mundy-Morris' Southland Dev Co. (Hidalgo County Water Control & Impr Dist) 2, lot 11, blk 20 Alamo Lnd and Sugar Co. Subd, Alamo Gr, 4 mi s Alamo, td 725 ft, perf csg 650-56 ft, bailing, slight oil show. H. J. Porter et al's C. H. Swallow, lot 5, Porter sub, Minnesota-Texas Land & Irrigation Co. tr, s Alamo, sp, temp abnd. Quintana Pet. Corp.'s John C. Engelman 1, lot 10, blk 94, La Mestenas Gr, 4 mi se Mestenas field, coring 8410 ft. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, porc 46, Reynosa Juris, 4 mi e Samfordyce field, dr 1862 ft. Union Sulphur Co.'s ARGL&I 7, tr No. 2309, blk 59, 4000 ft e Mercedes field, td 7608, 5-in csg 7530, swabbing through perfs 7540-49 ft; ARGL&I Co. 8, lot 2120, blk No. 87, N. Capisallo District, n Mercedes field, coring 7761 ft; ARGL&I Co. 9, Farm tr 2268, blk 59, N. Capisallo District, ¼ mi e Mercedes disc well, dr 6485 ft. Yates McCurry's Southland Dev Co.'s 1, lot 13, blk 24, Alamo sub, 2½ mi s of Alamo, sp and sd.

JACKSON COUNTY—Shell's C. F. Combs 2, 1398 ft wl and nl of 243-ac tr, sec 33, M&C sur, 1175 ft se disc well Mauritz field, coring 5752 ft.

JIM HOGG COUNTY—French Oil Corp.'s J. Vela Pena & Bros, (E. Rodriguez) 2, lots 18 and 19, sur 579, 5 mi nw Randado, coring 1485 ft. Enode et al's J. C. Saunders 1, corners of blks 18, 19, 30 and 31, sec 17, R. Holbein sub, Sh 3, Las Animas Gr, lcn. S. L. Miller Oil Co.'s Yeager 2, blk 6, sur 30, dr 3240 ft. P. H. Neilson, Trustee de la Garza 1, blk 293, Pipin sub, Randado Gr, temp abnd 610 ft.

JIM WELLS COUNTY — Gist & Graddy's (formerly carried Muskogee Iron Works et al) B. W. Owens 1, nw Bentonville field, Pointevent sur, sp and sd. R. A. Graddy's F. Bennett 1, (formerly shown as Hobbs) lot 87, sec 76, Holdeman sub, 2 mi w Premont field, lcn. Houston Oil Co. et al's E. A. Hawkins et al 2, blk 11, Putnam subd, sh 3, San Diego Gr, ½ mi San Diego field, otd 6301, pb 3500 ft, sd/tr, dr to 6480 ft, sd for orders. G. M. Richardson's J. E. Garrett 1, sec 5, N. G. Collins Gr, 15 mi n Alice near Highway 66, abd 6250 ft. Stanolind's E. W. Raney 1, 330 ft nl and el ne sec 16, King Ranch sub, w offset disc well Bentonville field, lcn; J. E. Saim 1, 330 ft sl and wl sw sec 18, King Ranch sub, n offset disc well Bentonville field, lcn. Texon Royalty & Lucey Pet. Co.'s Leona Dood 1, sec 15, King Farm lots, nw offset disc well Bentonville, sp. Joe E. Walsh's W. D. Wade 2, lot 2, blk "C" Bode sub, Sandia area, sd 1200 ft.

KARNES COUNTY — DeGraffe & Reele's Cochran 1, McConnell League, 5 mi ne Riddleville, ru. Worth Oil Co.'s E. Hysaw 1, 1069.8-ac tr, Don Erasmus Seguin Gr, w of Kenedy, lcn.

KERR COUNTY—Auld & Evans' I. R. Heffner 1, sec 13 BS&F sur, 25 mi nw Kerrville, set 10 in csg 1565 ft. Eastland Oil Co.'s Jeff Love 7, J. Martinez sur, sec 1594, Love Ranch area, sd 2335 ft. Evans & Edminston's Will Auld 1, sec 1692, 418-ac tr, sp and sd.

KIMBLE COUNTY — Dr. B. R. Thomas' Rust 1, sw¼ sec 47, BS&F sur, 13 mi nw Junction, lcn.

KLEBERG COUNTY—McCord & Daybault's Killam 1, lot 7, sec 53, DT&I subd, 5 mi se Recardo, lcn.

LASALLE COUNTY—Davenport & Talbot's G. Watkins, sur 103, 25 mi e Encinal, sd 2729 ft. Paul Meaders & Adair et al's Reed 1, sec 136, T. Conlan sub, 15 mi e and 10 mi s of Cotulla, fsh for ds 2792 ft.

LAVACA COUNTY—J. D. Aguier et al's No. 1, A. A. Staffa, W. R. Hensey sur, 5 mi s Schulenburg, sd 2609 ft. Goods & Mayton's M. Schaeffer et al 1, 150 ft el of 481-ac lse, 150 ft s of rd, W. R. Hensley sur, lcn.

LIVE OAK COUNTY — Dirks Bros.' A. Troell 1, 80-ac lse, Leal sur, 5½ mi ne Geo. West, dr 2565 ft. R. H. Feltner et al's John T. Carter & Bros. 1, sec 319, T&T Ry Co. sur, sw portion of county, td 3466 ft, dr in sd/tr hole abt 2750 ft. Inter-Allied Pet. Corp.'s Aetna Life Ins. Co. 1, J. Poitevent sur, 49.47-ac tr, 6 mi ne Dinero, digging pits. Odgen & Reed's D. C. Reed 1, Clegg Ranch, sw part of county, dk and sd. T. T. Quinn's E. Terrell 1, J. Houlihan sur, 1½ mi ne Whitsett, sd 1080 ft, for orders. Windsor Oil Co.'s B. E. Stolte 1, center tr 9, J. Ingram sur, Ab-261, lcn.

MAVERICK COUNTY—Thomson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY — Aransas Oil Co.'s Ruckman 2, sur 69, 13 mi sw Wentz, sd 900 ft. John F. Camp Dr. Co.'s C. E. Byrne Est 3, 206-ac Byrne tr, Geo. Pittuck sur, w of Calliham, td 500 ft, killed and prep to dr ahead. Climax Oil Co.'s H. L. Lark 1, blk 96, E.W.B. Schrugham sur, ne Calliham field, lcn. Dan Culver & G. C. Richardson's Wm. Fahler 1, 800 ft el 500 ft sl of tr, G. Pittuck sur, w Calliham, lcn. Daubault's Matula 1, 100-ac James Garner sur, 2½ mi sw Calliham, sd 1018 ft. Charles A. Hall No. 2 Claunch, 200-ac tr, M. Hely sur, ½ mi s Calliham sd 967 ft. R. J. Hill et al's Richardson 1, sur 158, 15 mi sw Tilden, sd 595 ft, corrected depth. Magnolia Pet. Co.'s Minnie Kincaid 2, sur 86, td 3153 ft, pb Cole snd 1810-22 ft, comp 20 mcf gas per day. Reliance O&R Co. & Santa Clara Oil Co.'s Shiner Est 1, 330 ft nl, 150 ft el nw w½ sec 80, Shumway sub, dk. V. G. Schimmel's E. R. Hagist 1, 330 ft nl and el sw¼ sec 108, ½ mi s Loma Alta field, ru; Two Rivers Ranch 3, sec 58, one mi s Wentz, dry and abnd 1146 ft. Whisenant & Trenchard's Roos Bros. 1-A ne¼ sec 60, 1¼ mi sw Magnolia Kincaid 2, tentative lcn.

MEDINA COUNTY — Frank A. Brown's Mary Winn 1, John Ward sur td 60 ft, set sur csg and sd. R. S. Bynum's Melton 1, 160-ac tr sur 14½, lcn. W. C. Campbell et al (Ed Falvey et al's) McMenemey 1, sur No. 331, G. Petty sur, 4 mi se Devine, sd 2892. Gates & Hollis' W. B. Odom 1, 300-ac tr, H. Castro sur No. 174, 5 mi sw of Hondo sd 160 ft. N. C. Johnson's Taylor 1, 320-ac tr sur 136, lcn.

NUECES COUNTY—V. L. Blanchard's T. H. Isensee 1, 330 ft nl and el blk 8, R. Shaeffer lands sub, 1½ mi w Clarkwood townsite, dk. J. T. Cox's John Harvey, share 11, Harney lands, Gregoria Faris Gr, 2½ mi se Callahan, sd 50 ft. Tom Graham & Republic Nat. Gas Co. & Whelan 1, 40-ac lse, Villareal sur, Saxet Hgts, td 5254 ft, testing through perforations 4058-60 ft. M. F. Hurlburt's J. C. Phillips 1, center lot 9, 20-ac tr, sur 48, Flour Bluff Encinal Garden tracts, 9½ mi se Corpus, sd 3983 ft. W. P. Hinds rigging up for test at Driscoll

townsite, 1½ mi sw Clara Driscoll field, O. W. Killam's Betty Ellich 1, 86.38-ac tr, sec 109, Pauls sub, 4000 ft sw Clara Driscoll field, running electric formation test 3817, cap 3811-13, sand 3811-17 ft. La Jita Corp.'s Richard King Est 2, sec 24, King Ranch sub, one mi sw King Ranch gassers, 2 mi ne Bentonville discovery, coring 5538 ft. Morgan Gulf Oil Co.'s Rand Morgan 2-A, sec 403, Saxet, 2000 ft sw 5800-ft prod, sand 5836-44 ft, 7 in csg 5836 ft, cleaning no gauge. H. M. Reed's Katherine Quinn 1, 19.6-ac tr, Villareal sur, about 3300 ft w of Saxet Hgts prod, dr 3172 ft. G. M. Richardson's Wm. Gerhardt 1, 208.65-ac tr, sec 79, Geo. H. Pauls sub. A. F. de La Fuente sur, abt 2½ mi ne Agua Dulce field, dk. Southern Minerals Corp.'s Mrs. M. P. Masten 1, 124.32-ac tr, G. Frank sur No. 416. Saxet 1000 ft n 5800-ft prod, sand 5803-5824, dst show 2000 ft plo, 260 lbs pressure, setting 7 in csg 5814 ft; Rand Morgan 2, 330 ft nl, center el and wl lot 42, Artemus Roberts sub, AB&M sur, sec 411, Saxet, 9200 ft nw 5800 ft prod, dk. Terminal Oil Products Co.'s R. V. Thurman 1, sw¼ sec 10, Flour Bluff Garden Tracts, Rincon del Oso Gr, dk.

SAN PATRICIO COUNTY — Benedum & Trees' Mrs. E. H. Welder 2, sec 19, Welder Ranch sub, 3½ mi ne Sinton, td 6116 ft, pb 6100 ft, woc; C. V. Jones 1, sec 65, Geo. H. Pauls sub, Coleman-Fulton Pasture Co. Lands, 3 mi e White Point field, 4½ mi nw Portland, dr 5920 ft. C. B. Bunte's W. C. Mayfield 1, tr 11, Roos sub, 2 mi n White Point field, lcn. Esnes Oil Co.'s (Geo. E. Smith) J. E. Britton 3160-ac tr, sec 6, blks 7 and 8 2nd sub Taft Farm Lands, Taft, sp. Portillo Oil Co.'s E. H. Welder 1, sec 37 Welder Ranch sub, one mi sw of Plymouth field, coring 5820 ft. Shell's G. W. Pullin 1, sec 1, sec addition Taft Farm lands, Taft, td 4915, swabbing. Willis Storm's Nancy Hobbs 1-A, 50-ac tr, M. P. J. & N. Delgado sur, sd 7004 ft, heaving shale, may abnd.

STARR COUNTY — J. F. Anderson's Yzaguirre 1, 139-ac tr, porc 79, sd 390 ft. Coreta Pet. Co.'s N. Pena 1, share 80 porc 80, Camargo Juris, 1½ mi n Rio Grande City field, dr 1225 ft. J. J. Currie's Y. G. Garcia 1, sh 7-B, porc 71, 16 mi nw Rio Grande City field, dr 683 ft. Griffin & Kimbrough's Guerra 1, sh 298, porc 69, n of Mier, lcn abnd. Killam & Staggs' S. D. Ricaby 1, 150 ft s Highway 4, 200 ft fr wl porc 83, Carmargo Juris, 3 mi e Rio Grande City field, prep to spud. Larkins & Warr's Kelsey Bass 1, 533 ft nl, 408 ft el lot 8, Coastal sub, porc 87, Barbacoas area, sp. Ed Leach's Wood Est 1, 2100 ft n Rio Grande, 1144 ft fr wl porc 84, 3 mi se Rio Grande City, coring 2185 ft. St. Marys O&G Co.'s O'Shea (Gonzales) 1, 450 ft nl, 850 ft wl sh 65, porc 71, n of Roma dr 378 ft. Otto W. Woods H. P. Guerra 1, lot 35, Conroe sub, porc 50 Mier Juris, sd 100 ft.

TRAVIS COUNTY—Albrecht & Brinkrueger Sr.'s M. C. Swenson 1, 75-ac tr, L. Kimbro League, sec 5, Kimbro area, sd 1270 ft. Artz & Co.'s Wolff 1, Thomas Hancock sur No. 20 ½ mi n New Sweden, sd 1280 ft. W. F. Johnson's Eliha Berry 1, center lot 1, lot 14, Granview sub, division B, City of Austin, lcn. Sal-Mar Oil Corp.'s P. Carlson 1, M. W. Smith sur, 4 mi n Kimbor, lcn.

VICTORIA COUNTY—Rowan & Hope's A. W. Scheel 1, 195-ac tr, J. E. Escalera Gr, S Nursery, dr 5535 ft.

WEBB COUNTY — French Oil Corp.'s S. Benavides 1, 330 ft sl, 990 ft el sec 2254, 3 mi n Oilton, lcn. Payne & Martinez's Mrs. M. P. Perry 1, sur 771, lcn abnd. South Texas Oil Co.'s Fee 2, blk 21, sec 768, 3 mi nw Oilton, lcn. SS&B Oil Co.'s Lone Star Construction Co. 9, porc 12, ½ mi nw of Laredo temp abnd 2004 ft. W. H. Vernor Tr.'s Jefferies Ranch 1, blk 13, sec 1454, 30 mi nw Laredo, sd 1435 ft.

WILLACY COUNTY—Shell's Yturria Land & Cattle Co. 1, most southerly se cor of sh 64, San Juan de Carritos Gr, La Sal Veja prospect, dr 4565 ft.

WILLIAMSON COUNTY—Glass Bros. A. Albert 1, P. Coursey sur dry and abnd 785 ft. H. F. Goff's Charles Patschke 1, 100-ac tr in Foley sur, 2 mi se of Thorndale, sd 1135 ft. James H. Holdeman et al's Amor Forwood 1, 160-ac tr, H. T. & B. Ry sur, sec 4, sur 14, no rept. A. T. McGee's Albert Pfluger 3, 94-ac tr, White sur, lcn abnd.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr, Conception Botello sur, 4 mi Poth, sp and abnd. Otto Hierholzer's E. M. Hierholzer 1, R. Salinas sur, 12 mi sw Floresville ,lcn. A. G. Reimenschneider's Lon Harrell 2, 209-ac tr Manuel Baerrera sur, 5 mi s of Floresville, dr 655 ft.

ZAPATA COUNTY—Dan Auld & Oklahoma Co. of Texas' J. M. Sanchez 1, blk 37, sur 9, Borrego Gr, north end of county, dr 1500 ft. Ivan Howard et al's Y. Martinez 2, blk 1, sur 241, ru. R. A. Mitchell's P. Bustamente 1, share 32, Fansler Partition, Comitas Gr, Escobas area, lcn. J. J. Perren's Uribe 1, blk 31, Perren sub, sh 485, San Ygnacio sub, Borrego Gr, 12 mi ne San Ygancio, prep to sp.

ZAVALLA COUNTY—Bay Oil Corp.'s Nat'l Bank of Commerce 1, sec 43, blk "A," AB&M sur, 16 mi se Batesville, dr 3634 ft. W. L. Bridges' F. B. Flowers 1, sec 19, blk 1, I&GN RR sur, sd 450 ft. Frank Buttram et al's Whitecotton 1, B.&M sur No. 1, dr 4210 ft. Leona Oil Corp.'s George West 1, C. Bustillo sur No. 1, dr 4645 ft.

TEXAS GULF COAST

BRAZORIA COUNTY — Gulf's Fairfield 1, Lockridge prospect, A. Robeson sur, fsh 8398 ft. Texas Gulf Prod. Co.'s Sparks 1, Angleton prospect, Wm. Roberts sur, dr shale 5056 ft. Strake Pet. Corp.'s Poole 1, Poole Ranch prospect, W. Eggers sur, washing 3700 ft.

CHAMBERS COUNTY—Glenn H. McCarthy's A. Pitt 1, Winnie prospect, J. M. Duran sur, dr shale 6609 ft. Salt Dome Oil Corp. & Gem Oil Co.'s A. B. & V. Lawrence 2, Cotton Lake prospect, S. Barrow sur, 7300 ft shale pb will test sands 6650 to 6651 ft.

GALVESTON COUNTY — Coastal Minerals Dev. Co.'s M. J. Joslin 1, Friendswood prospect, S. McKissick sur, dr shale 6375 ft. Sun's J. E. Hughes 1, Green Lake prospect, W. C. M. Baker sur, milling 8355 ft.

GRIMES COUNTY—Crooke Bros. et al's W. W. & J. E. Greer 1, near Carlos, P. B. Connor sur, dr sandy shale 1723 ft.

HARDIN COUNTY—Jack Frazier's O. Sternenberg 1, Koutz prospect, J. Houston sur, abn 7001 ft. David B. MacDaniels' Nona Mills 1, Grisby prospect, E. Emanuel sur, dr shale 6160 ft. Resource Prod. Co.'s C. W. Howeth 1, sw of Arriola, A. J. Cotton sur, dr shale 4077 ft.

HARRIS COUNTY—Amerada-Stanolind's L. Dopsalus 1, Fairbanks-Satsuma prospect, W. C. R.R. sur, blk 1, sec 2, dr shale 5161 ft. Bunte et al's Lobit 1, Cedar Bayou prospect, B. Barrow sur, dk.

JEFFERSON COUNTY—Magnolia's Funchess 1, Cheek prospect, H. & T. B. sur, No. 16, dr sandy shale 7439 ft. Sun's Hebert Broussard 1, Labelle prospect, B. Blackmon sur, dr sandy shale 7584 ft. C. W. McPhil's Owens 1, n of Port Arthur, sd 2098 ft.

LIBERTY COUNTY—Atlantic & Brace's E. E. Hardy 1, Hardin area, J. Robeson sur, 8110 ft salt water sand pb 7775 ft.

MATAGORDA COUNTY—Helmerick & Payne's Hawkins 1, Sheppards Mott area, D. A. McCarthy sur, milling 3004 ft. Sun's Craig 1, e flank of Hawkinsville dome, T. Williams sur, setting protection string of pipe 6218 ft.

MONTGOMERY COUNTY — Mid-Texas Oil Co.'s Security Trust Co. 1, Willis prospect, G. W. Lewis sur, coring 4300 ft. Wm. Thompson's Scott 2, Dacus prospect, F. A. Wheeler sur, abn 3685 ft. Chapman & Smith's Delta Land Co. 2, Dacus prospect, T. Sheppard sur, dr shale 4981 ft. Tide Water Darby Oil Co.'s Corbitt 1, Splendora, J. J. Blackman sur, dr shale 648 ft.

POLK COUNTY—Dick Schwab's Kirby Lbr. Co. 1-A, Ace area, T. A. Sublett sur, dk.

SAN JACINTO COUNTY—C. Gholson & L. Decker's Randolph 1, Evergreen area, V. Flores sur, dk blew down.

WALKER COUNTY—Boone Brothers et al's Thompson Bros. Lbr. Co. 1, w of Trinity, J. Ortego sur, dk.

WASHINGTON COUNTY—Sun's Lauter 1, Clay Creek, se flank, N. Clay sur, dr shale 4005 ft.

WHARTON COUNTY—Pure's E. Paige 1, Blue Basin prospect, J. Pirie sur, cutting out six and five eighths-inch casing 7700 ft. A. C. Roan's E. Oswald 1, Leach prospect, E. T. R.R. sur, sec 61, lcn. Sterling's A. Genzer 1, East Bernard prospect, J. Scott sur, sd 3265 ft.

WYOMING

ALBANY COUNTY—James Lake and others' George & Hunt 1, nw ne se 5-17n-75w, mim.

CARBON COUNTY—General's Union Pacific 1, sw sw nw 5-19s-83w, running 13⅜-in csg to 450 ft.

CONVERSE COUNTY—E. B. Jones State 1, sw sw sw 16-32n-69w, dr 1918 ft.

NIOBRARA COUNTY—Lewis Gokel sw ne 31-35n-62w, running 10-in csg to 300 ft. S. & H. Dev Co.'s Olinger 2, cnl sw ne 1-36n-63w, pulled 4¾-in csg at 1682 ft to so water.

SHERIDAN COUNTY—Sheridan Syndicate's Allison 1-A, sw sw se 15-5n-85w, dr 3668 ft.

WESTON COUNTY—Conway Oil Co.'s Government 1, se se nw 7-4n-60w, dr 2244 ft.

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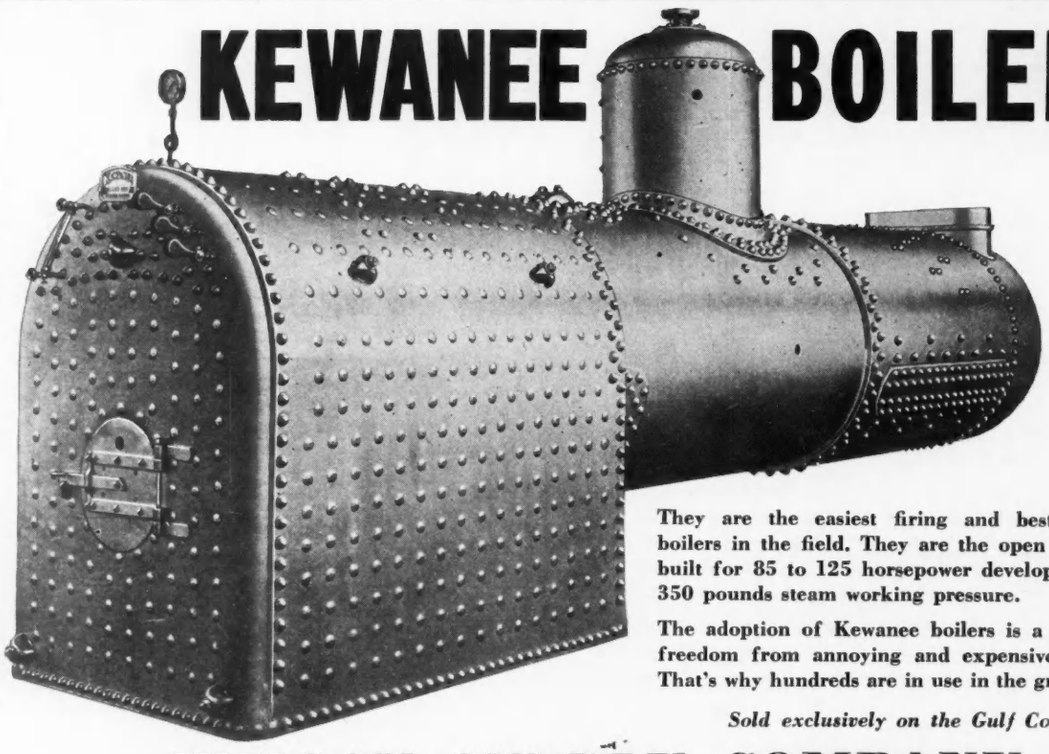

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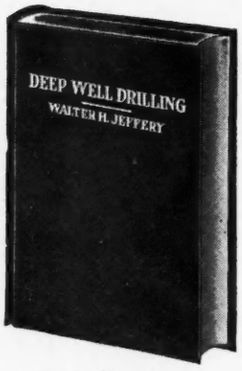

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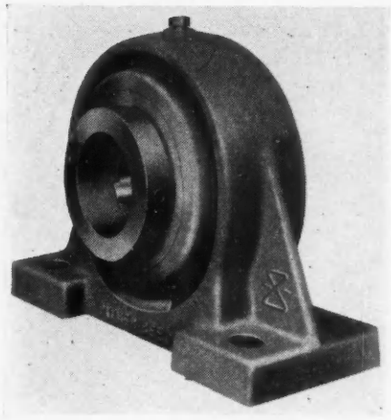
PILLOW BLOCK
Palmer-Bee Company

Palmer-Bee Company, Detroit, Michigan, has announced a new type self aligning pillow block to simplify alignment of shafts and to take care of light or heavy shock loads at either high or low speeds.



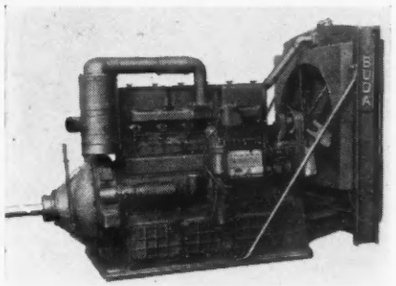
Palmer-Bee Pillow Block

Among its distinctive features claimed is its ability to withstand a greater shock load than a shaft of corresponding diameter. This is due to the housing construction which is of cast steel. The bearing operates on a true ball and socket principle inasmuch as the housing is machine finished to a spherical surface and fit that permits a free oscillating movement of about three degrees maximum in any direction and at the same time maintains an unbinding accurate alignment of shafts. The pillow block is mounted with a Hyatt heavy duty precision bearing in a machined finished housing made dust and dirt proof.

DIESEL ENGINE
The Buda Company

The Buda Company, Harvey, Illinois, has announced a Diesel engine that employs the use of a very unusual type of cylinder head which results in "soft combustion" and which is attained through increased turbulence and controlled combustion. This is accomplished principally through the use of an auxiliary air chamber, which, because of its function, is called the "Energy Cell," the manufacturer claims. In this Diesel, the rate of pressure rise is well within the limits of gasoline engine practice; maximum pressures are not over 625 pounds per square inch. The compression ratio is also comparable to that of a gasoline engine—being between 12.5 to 1 and 13.2 to 1. The unusual and controlled turbulence develops a high workable mean effective pressure.

The Model 6-LD-909 is the most recent addition to the Buda line of industrial engines. The "909" is a 6-cylinder, 4-cycle, solid injection engine with a 5¼-inch bore and 7-inch stroke, 909 cubic inch displacement, and develops 178 horsepower at 1500 revolutions per minute and 156 horsepower at 1200 revolutions per minute.



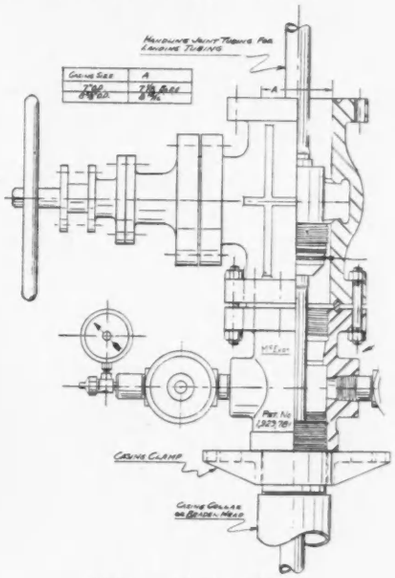
Buda-Lanova Diesel Engine

TUBING HEAD
J. H. McEvoy & Company

J. H. McEvoy & Company, Houston, announces the introduction of a series 900 tubing head, designed to make it possible to remove the master valve from the well instead of leaving it on as was previously the custom.

It also makes possible the changing of the elevation of the bottom of the tubing while avoiding having to kill the well with mud to make this change. The tubing hanger is locked in place by a simple locking ring provided with threads that easily withstand the full upward well pressure which exists when preparations are being made to elevate or lower the tubing one or more joints. This lock ring is screwed down tightly while the setting joint is simultaneously unscrewed from the top thread of the tubing hanger. Reversing the operation unscrews the locking ring and reengages the thread of the tubing hanger, being simple and quick to do.

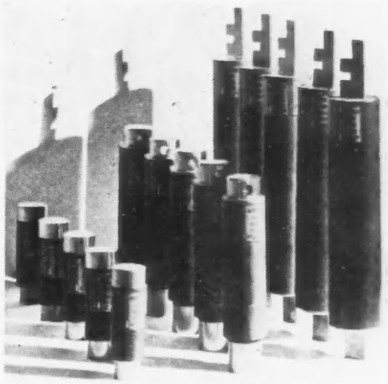
The joint between body and cap is a steel ring joint of standard dimensions and will withstand highest well pressure without leaking oil or gas.



McEvoy Tubing Head

AIR-SEAL IMMERSION FUSES
Rowan Controller Company

Rowan Controller Company of Baltimore, Maryland, recently placed on the market its new Air-Seal fuse which has been especially designed for use under oil in oil immersed control equipment.



Rowan Controller

The fuses are of simple construction. Air-Seal fuses which have been approved by the Underwriter's Laboratories, are supplied for 250 and 600-volt operation in standard sizes from 30 to 400 amperes. Bulletins containing complete information about Air-Seal fuses have been prepared by The Rowan Controller Company and are available upon request.

SEISMOGRAPH DRILL
Sullivan Machinery Company

Sullivan Machinery Company, Michigan City, Indiana, announces No. 37, a new seismograph drill, a motorized shot-hole or core-drilling rig for exploration.

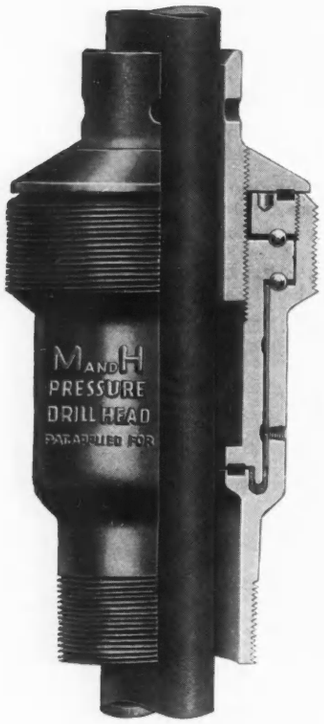
This unit may be either factory mounted, or may be supplied for mounting upon a field truck. Power is either through the truck power take-off or from a separate power unit. Other construction features include welded tubular frame, antifrictional bearings, steel castings, and flexibility of control.

PRESSURE DRILLING HEAD
Hauser Machine and Supply Co.

The Hauser Machine & Supply Company, Monahans, Texas, has recently placed on the market a new type of pressure drilling head, designed to facilitate pressure drilling. A major purpose of the unit is the conservation of the packing expressly installed as a seal between the drill stem and the casing. Heretofore, the general practice has been to encase the rubber packing of various designs in a suitable head, and to revolve the drill stem through it.

Contrary to common practice, the new unit does not include packing on the revolving case, in which is enclosed the rubber drill stem packing case and

This Week with the Industry's EQUIPMENT SUPPLIERS



M & H Drill Head

the outer housing is ground so closely as to allow only a slight clearance, but sufficient for free rotation. The thrust is carried by a double set of ball bearings. At the extreme lower end of the revolving is a recess to serve as a reservoir for a liquid of a suitable viscosity. As the well pressure rises and exerts a pressure against the reservoir containing the liquid, the close tolerance between the revolving and the stationary members offer such a great resistance to the liquid that it more than overcomes the driving pressure. In this manner, a packingless, practically frictionless liquid seal assures pressure control.

Nomenclature Map

E. C. Jacobson, 530 McBirney Building, Tulsa, has prepared a nomenclature map of the State of Texas. Jacobson is the maker of similar maps for Oklahoma and Kansas that have been adopted as official by the Nomenclature Committee of the Mid-Continent Oil & Gas Association.

The Texas map shows: oil fields in green and gas fields in red; index for locating the 266 counties; index for locating the oil and gas fields; cities, towns, county seats, principal streams; and important oil areas in the adjoining states of New Mexico, Oklahoma, Arkansas and Louisiana.

A year was required in assembling data and preparing the map. The names of the fields are the same as those designated by the six nomenclature committees in the State of Texas.

The map is made on a scale of eight miles to the inch, and is 53 inches by 69 inches.

Hugh Trimble Joins Muskogee Iron Works

Hugh G. Trimble, for the past 20 years connected with the petroleum industry and widely known through the Mid-Continent area, has opened offices in the Thompson Building, Tulsa, Oklahoma, from which point he will represent Muskogee Iron Works.

Larsen Promoted By Wickwire Spencer

Wickwire Spencer Steel Company has appointed H. A. Larsen, formerly manager of structural products division on the West Coast, to the position of Pacific Coast sales manager, succeeding R. H. Clapp, resigned. Larsen's headquarters will be at 101 Townsend Street, San Francisco, Pacific Coast office of the company.

Larsen, upon graduation from the University of Michigan in 1906, spent two years in Detroit, gaining experience in structural designing, going to the West Coast in 1908 where he was subsequently engaged in this type of work. In 1915 he became associated with L. A. Norris Company in San Francisco, agents for Clinton electrically welded fabrics and other products of Clinton Wire Cloth Company. Two years later Larsen became vice-president of L. A. Norris Company with whom he was associated until 1922 when the company discontinued that part of its business. In 1922 he joined Wickwire Spencer Steel Company as manager of structural products in the Pacific Coast territory, resigning in 1924 to assume charge of this same territory for National Steel Fabrics Company, a subsidiary of Pittsburgh Steel Company. Larsen rejoined Wickwire Spencer Steel Company in 1934 as manager of structural products for the Pacific Coast, serving in that capacity until his recent appointment.

H. A. Larsen

Hugh G. Trimble

Al Powers Will Represent Rector

Rector Well Equipment Company, Inc., Ft. Worth, Texas, announces the appointment of Al Powers as North Louisiana-Arkansas representative for Rectorheads, to be headquartered at 631 Spring Street, Shreveport, Louisiana. Powers has represented National Tube Company for more than 25 years, the past 15 years of which have been in the field, working throughout Colorado, Wyoming and Montana, and in Texas since 1926, covering Texas, Louisiana and Arkansas.

Al Powers

Squeaks from the Bull Wheel

Absent Minded

A policeman investigating a commotion outside an apartment building one evening found a man lying on the sidewalk, pretty well battered, but conscious.

"What's the matter here?" said the cop.

"Oh, just absent-mindedness," replied the man weakly.

"What are you talking about?"

"Well, you see I live on the fourth floor of this building. My wife and I are both very absent-minded. I just came home from a long business trip and my wife and I were at the dinner table when a step sounded in the hall and someone tried the door. Well, my wife is so absent-minded she said, 'Goodness, there comes my husband!' and I'm so absent-minded, I jumped out of the window!"

Deferred Creditor

The local church was making a drive for funds, and two colored sisters were bearing down hard on Uncle Rastus.

"I can't give nothin'," exclaimed the old Negro. "I owe nearly everybody in this here old town already."

"But," said the collectors, "don't you think you owes de Lawd somethin' too?"

"I does, sister, indeed," said the old man, "but He ain't pushin' me like my other creditors is."

Streamline Model

The young bride sadly said: "Men are too mean for anything."

"What's the trouble now?" asked her best friend.

"Why, I asked Jack for the car today, and he said that I must be content with the splendid carriage that nature gave me."

Scratch

"I hear, Uncle Wash," said Doctor Brown, "that all your folks have the itch."

"Yas suh, Doctah," replied the old darky, "de good Lawd has done 'flicted we-all dat way."

"And are you doing anything for it, Uncle?"

"Oh, yas suh, Doctah, yas suh."

"What are you doing?"

"Why suh, Doctah, we-all is scratchin' suh."

A "Line"

"Pa, what does it mean here by 'diplomatic phraseology?'"

"My son, if you tell a girl that time stands still while you gaze into her eyes, that's diplomacy. But, if you tell her that her face would stop a clock, you're in for it."

Alphabetically Speaking

"This lovely sheet of water must be a great asset for the town," said the visitor. "Do you people get much good out of it?"

"We certainly do," replied the native. "Last winter we got an appropriation to deepen it. That came under the rivers and harbors bill. This spring we will get another appropriation to drain it. That will come under the mosquito-control act. We now have hopes to get a third appropriation to plant trees on it to keep down the dust."

Blind Justice

Walking out of the courtroom, the negro woman was jubilant. She was putting forth praises all over the hall. She broke into a poem of which the first two lines were lost. But it ended with:

"I just laughed and laughed at the court's decision,
'Cause they give him the children, and they wasn't even his'n."

Clouded Title

A Louisiana attorney, retained by an oil company to trace the abstract of a deed, went back to 1803, the year Louisiana was bought from France. The company wrote the lawyer he would have to trace ownership of the land farther back than that, which he did in due time, reporting by letter as follows:

"Dear Sirs: I traced your deed back to 1803. Here it is complete. As you probably know, Louisiana was purchased from France in 1803. France had acquired Louisiana from the Spanish as the result of a successful war against the Spaniards. The Spaniards acquired Louisiana as the result of the explorations of an Italian named Columbus. Columbus was financially backed by Isabella and Ferdinand. Isabella and Ferdinand were given permission for Columbus' expedition by the Pope. The Pope is the vicar of Christ. Christ is the Son of God. God made Louisiana."

But this was not enough. The company then wanted information on the outstanding title in the Holy Ghost and Virgin Mary.

Revenge

"You say you were going only 20 miles an hour, said the traffic court judge to the clergyman who had been hauled in for speeding, "but the traffic officer says you were doing 40. I dislike to refuse to accept the word of either of you. Does the officer hold any grudge against you?"

"Not that I can think of," replied the parson after deep thought, "unless it is because I officiated at his marriage some five years ago."

Premiums

Well, how are you getting on in your new eight-room house?

Oh, not so badly. We furnished one of the bedrooms by collecting soap coupons.

Didn't you furnish the other seven rooms?

We can't. They're full of soap.

Exact Answers

How long will the next train be, please?

One engine and eight cars.

Smart, aren't you?

No, Jenkins, lady. Smart's just gone home to dinner.

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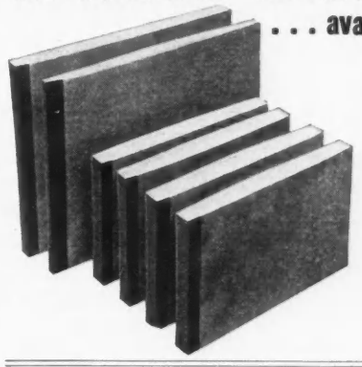

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

These forms are printed on 16 lb. Bond Paper. They are substantially bound. Duplicates are printed on colored bond and perforated, pencil carbon included with each book.

Forms will be shipped prepaid at prices shown below. Samples will be sent upon request.

Number	Kind of Form	PRICE 1 Book	5 Books	10 Books
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Form 101	DAILY TIME RECORD (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 102	DAILY GAUGE REPORT (In duplicate—100 sets to the book)	1.40	6.00	9.50
Form 103	WELL LOG AND RELATED DATA (8½x11, Printed both sides—100 to book)	1.50	6.50	10.50
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INDEX TO ADVERTISERS

A

	Page
J. S. Abercrombie Co.	—
Abercrombie Pump Co.	—
Allis Chalmers Manufacturing Co.	81
Allsteel Products Manufacturing Co.	—
American Askania Corporation	—
American Assn. of Petroleum Geologists	—
American Cable Co.	13
American Hammered Piston Ring Co.	—
American Iron & Machine Works	—
American Lubricator Co.	186
American Meter Co.	113
American Roller Bearing Co.	91
American Rolling Mill Co.	—
American Sand-Banum Co.	129
American Seismograph Co.	197
American Steel & Wire Co.	—
Anderson-Pritchard Oil Corp.	123
Ash Grove Lime & Portland Cement Co.	—
Athey Truss Wheel Co.	—
Atlas Powder Co.	—
Axelson Manufacturing Co.	125

B

Baash-Ross Tool Co.	—
Baker Oil Tools, Inc.	3
Baldwin-Duckworth Chain Corp.	—
Baroid Sales Co.	—
The Barrett Co.	—
Wm. M. Barret, Inc.	—
Beaumont Iron Works	—
Beaver Pipe Tools, Inc.	—
Black-Sivalls & Bryson	—
Bradford Motor Works	—
The Brewster Co.	—
Bridgeport Machine Co.	14
The Broderick Co.	33
Broderick & Bascom Rope Co.	—
Brown Tool Co.	—
Buckeye Traction Ditcher Co.	—
A. M. Byers Co.	—
Byron Jackson Co.	—

C

Cameron Iron Works	—
Carson Machine & Supply Co.	—
J. I. Case Co.	—
The Cavins Co.	—
Chain Belt Co.	—
Chiksan Oil Tool Co.	180
Chemical Process Co.	—
Clark Brothers Co.	31
Clark Hotel	—
Robert P. Clark Co.	197
Columbian Steel Tank Co.	—
Continental National Bank	—
Continental Oil Co.	—
The Continental Supply Co.	44-45
Fred E. Cooper Co.	—
Cooper-Bessemer Corp.	54-55
The Corbett Corp.	—
Cummings Engine Co.	28-29
W. H. Curtin Co.	—

D

Darling Valve & Manufacturing Co.	—
The Dayton Rubber Manufacturing Co.	—
Dean Core Barrel Mfg. Sales & Service	—
De La Vergne Engine Co.	—
Demag, A. G.	—
Diamond Metal Co.	—
David Donoghue	197
Dowell Incorporated	4
E. I. du Pont de Nemours & Co.	—

E

Eastman Oil Well Survey Co. of Texas	—
Economy Electric Lantern Co.	—
Elliott Core Drilling Co.	—
Emsco Derrick & Equipment Co.	—

F

Geo. E. Failing Supply Co.	—
First National Bank of Fort Worth	—
First National Bank, Houston	—
First National Bank & Trust Co. of Texas	77
Foote Bros. Gear & Machine Works	—
Fort Worth Laboratories	197
Fort Worth National Bank	—
Four Wheel Drive Auto Co.	—
Frick-Reid Supply Corp.	—

G

Gardner-Denver Co.	—
The Garlock Packing Co.	—
Garrott Brass & Machine Co.	—
Gas Power, Inc.	178
Gaso Pump & Burner Manufacturing Co.	104-105
Gearench Manufacturing Co.	145
General Electric Co.	—
L. H. Gilmer Co.	—
Globe Oil Tools Co.	—
Goodall Rubber Co. of Texas	—
B. F. Goodrich Rubber Co.	—
Goodyear Tire & Rubber Co.	—
H. P. Gott Manufacturing Co.	193
Grant Oil Tool Co.	—
Gray-Kerotest	—
Gray Tool Co.	—
Greene, Tweed & Co.	—
The Guiberson Corp.	—
Gulf Envelope Co.	—
Gulf Publishing Co.	156 and 201
Gulf States Utilities	—
Gustin-Bacon Manufacturing Co.	47

H

Hall & Lowery, Inc.	195
Halliburton Oil Well Cementing Co.	Fourth Cover
Hardway & Cathey	197
Harrisburg Steel Corp.	—
Haynes Stellite Co.	—
Hazard Wire Rope Co.	—
C. M. Hecter Sons & Co.	—
Hercules Tool Co.	—
Hewitt Rubber Corp.	88
Hinderliter Tool Co.	—
Hoard Exploration Co.	197
Chas. N. Hough Manufacturing Co.	129
Houston Oil Field Material Co.	—
Houston Ready-Cut House Co.	—
Hughes Tool Co.	First Cover
Hyatt Roller Bearing Co.	57
Hydril Co.	—

I

Independent Exploration Co.	137
Independent Pipe & Supply Co.	—
Ingersoll-Rand Co.	117
International Cement Corp.	109
International Derrick & Equipment Co.	—
International Harvester Co.	—
The International Nickel Co.	—
The International Petroleum Exposition	167
Irving Air Chute Co.	198

J

Byron Jackson Co.	—
Jarecki Manufacturing Co.	—
W. P. Jenny	—
Jensen Brothers Manufacturing Co.	—
Johns-Manville	188-189
S. M. Jones Co.	—
Jones & Laughlin Steel Corp.	155
Earle M. Jorgensen Co.	—

K

Kerotest Manufacturing Co.	61
Kibele Manufacturing Co.	—

L

Lamb Piston Sales Co.	—
Landis Machine Co.	71
Larkin Packer Co.	Third Cover
The Lane-Wells Co.	93
The Layne & Bowler Co.	—
Le Roi Co.	184
A. Leschen & Sons Rope Co.	—
The Lincoln Electric Co.	65
Link Belt Co.	85 and 185
Lucey Boiler & Manufacturing Corp.	—
Neal Lucey Co.	197
Ludlow Valve Manufacturing Co.	—
Lufkin Foundry & Machine Co.	Second Cover

M

MacClatchie Manufacturing Co.	179
Maintenance Engineering Corp.	192
D. S. Mair Machinery Corp.	—
Maloney Tank Manufacturing Co.	—
Martin-Decker Corp.	182
McAlpin Hotel	—
McIntosh & Seymour Corp.	63
Merco Nordstrom Valve Co.	—
Meter Improvements, Inc.	153
Mid-Continent Supply Co.	28-29
Miller Sand Pump Co.	—
Mission Manufacturing Co.	6
Lee C. Moore & Co.	—
Muskogee Iron Works	95

N

National Bank of Tulsa	149
National Exploration Co.	—
The National Supply Co.	24-25
National Tube Co.	—
Naylor Pipe Co.	—
New Deal Specialty Co.	—
Norma-Hoffman Bearings Corp.	41
Norvell-Wilder Supply Co.	—

O

Walter O'Bannon Co.	—
Oil Center Tool Co.	165
Oil City Brass Works	—
Oil Well Supply Co.	73
Oster Manufacturing Co.	79
Otis Pressure Control	—

P

The Parkersburg Rig & Reel Co.	—
Patterson-Ballagh Corp.	—
Pelican Well Tool & Supply Co.	—
Petroleum Electric Power Club	—
Petroleum Rectifying Co.	—
Petty Geophysical Engineering Co.	191
The Pierce Governor Co.	—
Pittsburgh Equitable Meter Co.	—
Pittsburgh Steel Co.	—
Portable Rig Co.	59
Producers Supply & Tool Co.	—

R

J. P. Ratigan Co.	—
Rector Well Equipment Co.	163
Reed Roller Bit Co.	38-39
The Republic Rubber Co.	—
Republic Steel Corp.	—
Norman H. Ricker	—
The Ridge Tool Co.	129
Dewey T. Ross, Inc.	—
Walter Ruska & Co.	—

S

J. A. Schley	197
Schlumberger Well Surveying Corp.	—
Security Engineering Co.	—
Seismic Explorations, Inc.	—
The Shaffer Specialty Co.	—
Shaffer Tool Works	—
Shell	—
Sinclair Refining Co.	—
SKF Industries, Inc.	—
A. O. Smith Corp.	—
E. M. Smith Co.	—
Nowery J. Smith Supply Co.	—
South Chester Tube Co.	—
South Texas Geophysical Corp.	197
Southern Engine & Pump Co.	123
Southern Pacific Lines	—
Spang & Co.	183
Spang, Chalfant & Co.	—
Sperry-Sun Well Surveying Co.	151
Star Drilling Machine Co.	—

T

Texas Electric Steel Castings Co.	—
Texas Iron Works	—
Thermoid Rubber Co.	—
Thornhill-Craver Co.	—
The Timken Roller Bearing Co.	—
Tips Engine Works	—
Titusville Iron Works Co.	—
Tnemec Co.	—
Edgar Tobin Aerial Surveys	177
Tretolite Co.	—
Trimont Manufacturing Co.	—
Twin Disc Clutch Co.	121

U

Union Carbide & Carbon Corp.	—
Union Wire Rope Co.	—
United States Rubber Products, Inc.	99
United States Steel Corp.	—

V

Volcano Burner Co.	—

W

Waukesha Motor Co.	—
Westinghouse Electric & Mfg. Co.	—
The Wheland Co.	—
Wickwire-Spencer Steel Co.	—
J. H. Williams & Co.	125
W-K-M Co.	—
Williamsport Wire Rope Co.	—
Wilson-Snyder Manufacturing Co.	—
Wilson Supply Co.	198
George Woods Agency	131

Y

Youngstown Sheet & Tube Co.	—

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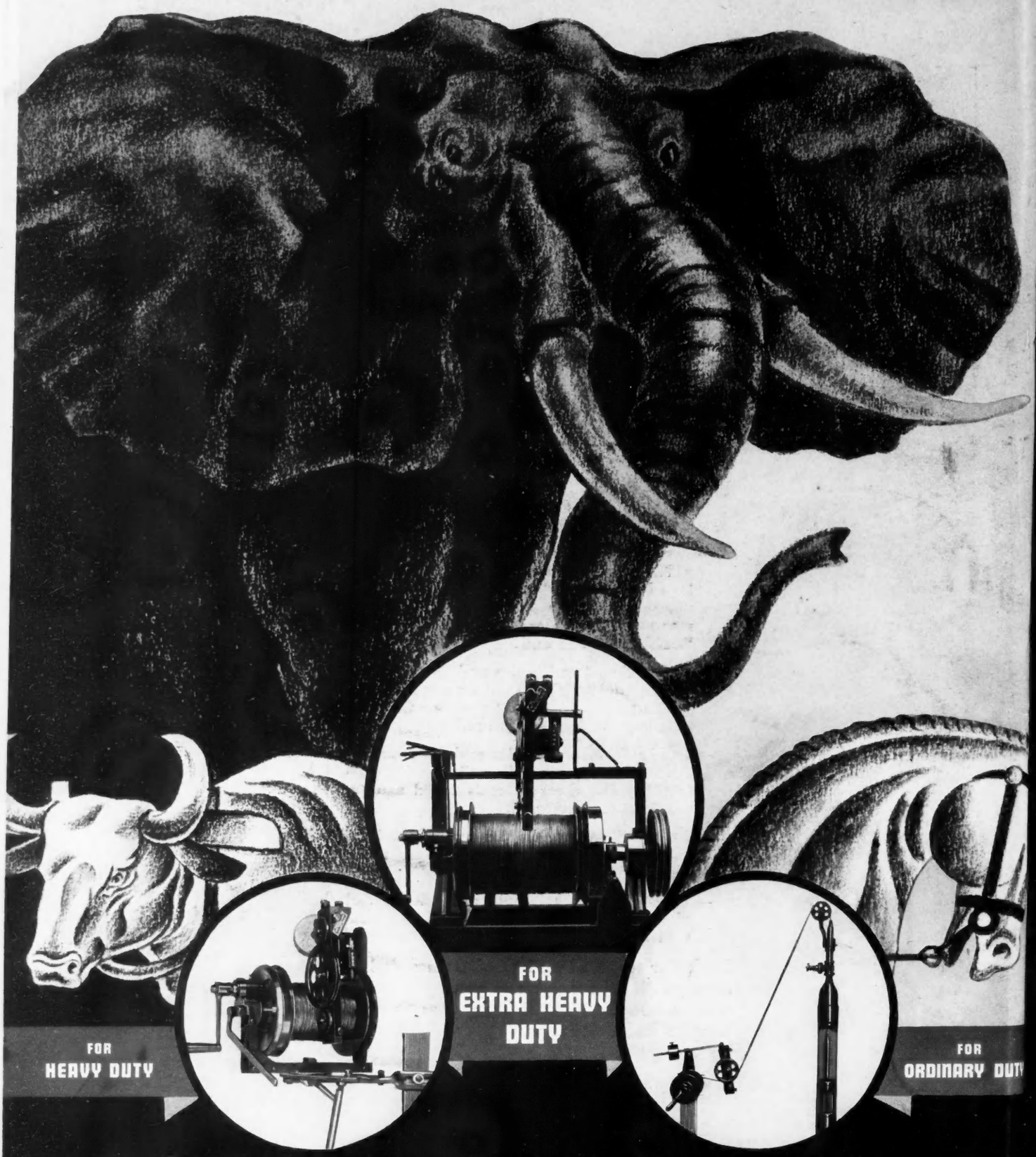

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